INTERNATIONAL CONFERENCE ON SUSTAINABLE KNOWLEDGE SYSTEMS

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KARATINA UNIVERSITY, KENYA

BOOK OF ABSTRACTS

Compiled

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Contents

AI Driven Sustainable Resource Management in Academic Libraries: A Global Perspective

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Abstract

This paper explores how artificial intelligence (AI) can drive sustainable resource management in academic libraries worldwide, reducing environmental impact and promoting eco-friendly practices. Through case studies from diverse institutions, it examines AI applications in energy optimization, digital resource management, and waste reduction. By automating lighting, climate control, and resource allocation, AI helps libraries conserve energy, minimize material usage, and lower their carbon footprint. The paper also addresses challenges such as data privacy and accessibility to AI technology, offering solutions adaptable to different contexts. This research underscores AI's potential to transform libraries into proactive environmental stewards on a global scale.

Detection, Classification and Prediction of Tuberculosis and Respiratory Tract Infections: A Machine Learning Approach

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Abstract

Tuberculosis (TB) remains a major global health concern, with approximately 10 million new cases reported annually caused by Mycobacterium Tuberculosis. Early diagnosis is crucial for effective treatment and prevention of transmission. Traditional diagnostic methods are often time-consuming and inaccurate, highlighting the need for innovative solutions. This study aims to develop a supervised machine learning model using the Naive Bayes algorithm to diagnose TB accurately. This study employed a machine learning dataset of TB patients containing clinical and demographic data. The proposed model detected, classified and predicted TB cases and other respiratory tract diseases with a 99% overall accuracy based on test data.

A Machine Learning Model for Predicting Cerebral Malaria using Supervised Machine Learning

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Abstract

Cerebral malaria is a severe complication of Plasmodium falciparum infection, accounting for approximately 400,000 deaths annually. Early prediction and diagnosis are crucial for effective treatment and survival. Traditional diagnostic methods are frequently time-consuming and inaccurate, underscoring the necessity for innovative solutions. The study aims to create a machine learning model using the Naive Bayes algorithm to accurately and efficiently predict cerebral malaria. The study used a machine learning dataset for detecting, classifying, and predicting cerebral malaria, achieving 99% accuracy using features from clinical and laboratory data.

A Machine Learning Model for Detection, Classification, and Prediction of Viral Hemorrhagic Fever using Naive Bayes Algorithm

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Abstract

Background: Viral hemorrhagic fevers (VHFs) are highly infectious diseases with high mortality rates, requiring timely diagnosis and treatment. Traditional diagnostic methods are often timeconsuming and inaccurate.
Objectives: Develop a machine learning model using Naive Bayes Algorithm for detecting and classifying VHF, predict VHFs based on clinical factors, and evaluate the model's performance against traditional diagnostic methods. Methods: This retrospective study utilized a dataset of VHF cases (Ebola, Lassa, and Dengue). Features extracted from clinical data, laboratory results, and environmental factors were used to train and test the Naive Bayes model.
Results: The proposed model achieved a 99% accuracy of detecting, classifying and predicting viral hemorrhagic fevers based on test data. The model had the ability to diagnose several hemorrhagic fevers like Lassa Fever, Ebola, Dengue Fever etc.
Conclusion: This study demonstrates the effectiveness of the Naive Bayes Algorithm in detecting, classifying, and predicting VHF. The proposed model offers a promising solution for early diagnosis, timely treatment, and outbreak prevention. Future research will focus on integrating additional machine learning algorithms and feature engineering techniques to further enhance the model's performance

Keywords

- Viral Hemorrhagic Fever Detection Information security,
- Machine Learning
- Diagnosis
- Classification
- Prediction

Attitude and Perception of Elderly Persons to Robotic Home Care in Oyo State

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Abstract

With the global ageing population on the rise, robotics is increasingly considered a viable solution to assist with elderly care. In Oyo State, Nigeria, this emerging technological solution raises questions about its acceptability among elderly individuals. This study examines the attitudes and perceptions of elderly persons in Oyo State towards robotic home care services.

Objective: The study aims to assess the level of awareness, perceived usefulness, trust, and overall attitude of elderly people in Oyo State towards robotic home care, as well as factors that may influence their perception such as education level, prior exposure to technology, and socio-cultural factors.

Methodology: A mixed-method approach was employed, combining quantitative data from structured questionnaires and qualitative insights from in-depth interviews with elderly individuals aged 60 and above. A sample of 200 elderly persons was selected through purposive sampling from urban and rural areas within Oyo State.

Findings: The results reveal that while there is a growing awareness of robotic home care technologies, the elderly population remains cautious and skeptical. Factors such as fear of the unfamiliar, concerns over privacy, and perceived threat to human caregivers contribute to reluctance in adopting robotic systems. However, those with higher exposure to technology and those living in urban areas demonstrated a more positive attitude towards the use of robotic caregivers, citing potential benefits such as increased independence and assistance with daily tasks.

Conclusion: The study highlights the need for tailored educational programs to increase acceptance and familiarity with robotic home care among the elderly in Oyo State. It also emphasizes the importance of addressing cultural concerns and ensuring human oversight in robotic care to improve trust and acceptance. With appropriate measures, robotic home care has the potential to significantly enhance elderly care in the region, though it may require careful integration into existing social and caregiving frameworks.

Keywords

- Elderly care
- Robotic home care
- Attitudes
- Perception
- Oyo State
- Nigeria
- Technology acceptance

Ethical and Privacy-Centered Blockchain-Based Identity Management in Healthcare

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As healthcare systems worldwide transition to digital frameworks, issues surrounding data security, patient privacy, and ethical data management become increasingly prominent. Traditional, centralized identity management (IDM) models expose sensitive patient data to risks such as breaches and unauthorized access, thereby challenging both patient trust and the ethical obligations of healthcare providers. In response to these challenges, blockchain technology presents a transformative approach to IDM, offering a decentralized model that prioritizes transparency, privacy, and patient autonomy.

This paper explores the application of blockchain-based IDM within healthcare, emphasizing its potential to resolve critical ethical and privacy concerns. Specifically, it highlights how blockchain's unique attributes—such as immutability, security, and decentralized access—enable a patient-centric data model that grants individuals control over their personal information. By analyzing key studies in blockchain healthcare applications, we underscore the benefits and limitations of decentralized IDM, focusing on interoperability with Electronic Health Records (EHR) and Enterprise Resource Planning (ERP) systems. This interoperability is crucial, as it addresses the current fragmentation of healthcare data systems, where disparate data sources limit efficiency and patient care continuity.

Our research methodology includes a proof-of-concept and simulated testing to evaluate the feasibility of blockchain-based IDM models in real-world healthcare settings. The model's design adheres to rigorous privacy standards and regulatory frameworks such as the General Data Protection Regulation (GDPR), ensuring compliance with global data protection norms. Through this evaluation, the study highlights blockchain's ability to meet the high standards of privacy and data security expected in healthcare, positioning it as a viable solution for ethical data management.

Findings indicate that blockchain IDM systems enhance patient empowerment by allowing individuals to manage data access, ultimately fostering trust in digital healthcare. Furthermore, the proposed model anticipates future regulatory trends, offering a scalable framework for privacy-centric IDM in healthcare. By addressing current and emerging healthcare data needs, this study contributes to the growing discourse on ethically aligned technology in medicine, demonstrating that blockchain can reconcile the requirements of data security, privacy, and patient autonomy in a rapidly evolving digital landscape.

In conclusion, the paper presents blockchain-based IDM not only as a technical solution but as an ethical imperative for modern healthcare systems. We argue that implementing decentralized IDM models will play a vital role in shaping the future of secure, patient-oriented healthcare. This research contributes both practical insights and a conceptual foundation for healthcare providers and policymakers seeking robust, privacy-enhancing IDM solutions.

Enhancing Research Data Management Practices through the use of Artificial Intelligence: A lesson Learned from Research Data Management Experts

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Abstract

The advancement in information communication and technology has led to research being done quickly as the results increase the volume of research data. This increase in volume and complexity of research data has led most researchers, research institutions, higher learning institutions and other stakeholders to struggle with how these data can be managed efficiently. The traditional methods in research data management (RDM), which researchers and their institutions mostly use, have been consistently reported to contribute to inefficiencies, data mismanagement, and issues related to non-compliance. This study explored the use of Artificial Intelligence (AI) technologies in improving RDM workflows. Specifically, the study evaluated the current state of RDM practices at the selected institutions, assessed the potential benefits of AI technologies in RDM practices, and explored barriers to implementing AI technologies in RDM practices. This study employed a quality research approach using an exploratory research design. Three institutions leading in RDM practices in the country, namely, the University of Dar es Salaam Computing Centre, Data Lab and Ifakara Health Institute, were purposively selected. Six (6) ICT experts and Six (6) data management experts were also purposively selected from these institutions. Data were then collected using key informants interviews. The findings have shown that when this study was conducted, there was minimal use of AI technologies in RDM practices at the selected institutions. However, AI technologies were seen as powerful tools in metadata generation, data quality control and assurance, collaborative tools, data organisation, predictive analysis and data security. Organisational readiness and technical capabilities were seen as the major limitations in enhancing the use of AI technologies in RDM practices. This study recommends mitigating all inhibiting factors for AI technologies to be embraced in research processes.

Lifestock Management Services Integrating One Health and Artificial Intelligence for Managing High-Burden Diseases in Low- and Middle-Income Countries

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Abstract

The director general of the World Health Organisation believes that AI is already being used in medication research, illness surveillance, outbreak response, diagnostic and clinical treatment, and health systems management. Digital healthcare is the way of the future; therefore, we must do everything in our power to ensure that everyone has access to these advancements and keep them from contributing to inequality. Antimicrobial resistance (AMR), zoonotic illnesses, and developing pandemics are examples of high-burden diseases that pose serious risks to global health, especially in low- and middle-income (LMIC) nations. For tackling these interrelated issues, traditional health management strategies that concentrate on environmental, animal, or human health alone are insufficient. With its emphasis on interdisciplinary cooperation, the One Health concept provides a thorough foundation for efficient illness management. Using artificial intelligence (AI) in the One Health approach increases its impact by facilitating more accurate disease prediction, effective surveillance, and focused intervention, all of which contribute to the advancement of the Sustainable Development Goals (SDGs) of the UN. The importance of One Health approaches driven by AI in the management of high-burden diseases in LMICs is emphasised in this abstract.

Methods: Published case studies, reports, and peer-reviewed literature on the use of AI in One Health programs for managing high-burden diseases were evaluated using a scoping review. Using examples from African countries and other LMICs, the review highlighted important actions, results, and difficulties in combining AI with One Health initiatives.

Results: According to the findings, One Health programs augmented by AI greatly boost disease surveillance, make predictive analytics possible for early epidemic detection, and enable coordinated responses to zoonotic illnesses such as rabies, tuberculosis, and Ebola. According to case studies, AI-driven models support cooperation between the environmental, veterinary, and public health sectors and aid in resource allocation, leading to more effective disease control and improved health outcomes.

Conclusion: Managing high-burden diseases requires integrating AI into the One Health strategy, especially in LMICs where resource restrictions are common and human-animal-environmental interactions are complicated. By boosting global health security and sustainable disease management, AI integration supports more robust and adaptive public health initiatives, which in turn supports the SDGs.

Keywords

- One Health
- artificial intelligence
- high-burden diseases
- zoonotic infections
- antimicrobial resistance
- LMICs
- SDGs
- public health
- interdisciplinary collaboration

Recommendation Algorithms: Risks and Implications for Social Media Users

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Abstract

The foundation of content delivery on social media sites like Facebook, Instagram, YouTube, and TikTok is now recommendation algorithms. These algorithms present serious hazards even though they improve user experience by personalising material. This study examines the negative aspects of recommendation algorithms, emphasising how they can lead to hazardous content exposure, addiction, echo chambers, misinformation amplification, and privacy concerns. It looks at the organisational and societal ramifications, especially how it affects users' critical thinking, privacy, and mental health. The ethical obligations of platforms and policymakers in reducing these adverse impacts through improved algorithmic design, user education, and regulatory monitoring are also covered in the paper. The study makes the case for a well-rounded approach to algorithm development, highlighting the necessity of openness, content diversity, and user well-being.

Integrating Artificial Intelligence into the Management of Digital Archives in Nigeria: Prospects and Challenges

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Abstract

The digital transformation is quickly turning archives into database. This has made the traditional archival processes largely defined by manual appraisal, classification, retention and others difficult. There is an urgent need for the archivists to re-examine their assumptions and embrace relevant technologies that will facilitate access to digital archives. This highlights the need for the adoption of Artificial Intelligence in archival systems and practices. With AI, archivists can achieve better records management outcomes and benefits for their organizations. AI can also be used to optimize processes, enhance user experience and quality, generate insights and value from data. It has also introduced new kinds of records like social media collection or diaries into the archiving system. Therefore, there is need for synergy between artificial intelligence and archiving systems and practices to be able manage the exponential increase in the quantity of data produced daily by individuals and organizations. While leveraging on the benefits of AI, archivists need to ensure that records management policies, procedures and practices are aligned with their organizational goals, values, and ethics, as well as with the legal, regulatory, social standards and expectations. They should also put into consideration the risk and challenges that may arise in the use of AI for managing records. This paper, therefore, examines the challenges, risks, prospects and benefits on the path towards the adoption of AI in the National and State Archives in Nigeria. It investigates the current information management practices of the National and State Archives and posits appropriate recommendations on concrete steps for adoption of AI by governments and other relevant authorities that will encourage/improve the use of AI in managing archives in Nigeria.

Keywords

- Artificial intelligence
- Digital Archives and Nigeria

Bridging the Divide: A Comparative Analysis of AI Literacy among Public and Private Secondary School Teachers

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Abstract

The increasing integration of artificial intelligence (AI) in education necessitates a thorough understanding of AI literacy among secondary school teachers, particularly in Nigeria's diverse educational landscape. Established on Diffusion of Innovations Theory, this research paper investigates the disparities in AI literacy between public and private secondary school teachers through a comparative analysis. Employing a mixed methods approach, the study aims to quantify AI literacy levels, identify significant differences between the two school sectors, and explore the challenges and opportunities for enhancing AI literacy skills among educators. A sample of 400 teachers was randomly selected from public and private secondary schools across 10 local government areas in Ibadan metropolis. The data collection instruments included the Teacher AI Literacy and Integration Survey (TAL-IS) for quantitative responses and the AI Literacy and Teaching Practice Interview Guide (ALTP-IG) for qualitative insights. Key quantitative questions examined the relationship between teachers' demographic factors and their ability to integrate AI into teaching practices, as well as the institutional support available for AI literacy development. Qualitative inquiries examined teachers' perceptions of the relevance of AI literacy, anticipated future impacts of AI in education, and strategies employed to incorporate AI into classrooms. With a Cronbach's Alpha reliability coefficient of 0.81, the findings reveal critical insights into the current state of AI literacy among secondary school teachers, highlighting significant gaps, gender disparities, and the urgent need for tailored professional development. This research underscores the importance of fostering AI literacy to prepare educators for an evolving educational landscape and suggests actionable strategies for bridging the divide between public and private school teachers.

Keywords

- AI Literacy
- Teacher Professional Development
- Public and Private Schools
- Educational Technology
- Comparative Analysis and Nigeria

Leveraging AI in Climate-Smart Digital Agriculture: the economic and policy pathways for sustainable food security in sub-Saharan Africa.

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Abstract

"According to the World Bank, about 1.25 billion people live in Sub-Saharan Africa and roughly two-thirds of this population depend on agriculture, making their livelihoods from a battered agricultural sector that is increasingly impacted by severe climate variations such as prolonged droughts, unpredictable rainfall, escalating temperatures and other vagaries of weather conditions. Temperature has been rising annually from 0.50C to 20C and rainfall patterns have been very erratic, giving rise to about a 12% drop in the yield of crops in the last decade. The climate change effect, among other reasons, has made the region strongly food insecure as 8 of the 9 countries with alarming state of hunger and 4 out of 5 hunger hotspots termed “catastrophe” globally according to the global hunger index and the IPC5 2023 reports are in the region. Again, the FAO in 2023 has projected that the area would further experience the highest increase regarding the number of people that are undernourished from 282 million to about 300 million in the next seven years. Therefore, since African agriculture is increasingly becoming threatened and people are increasingly hungry in the region, it is highly essential to dive into innovations that would improve the food security status of people in the area and, at the same time, are economically sustainable and resilient to climate change shocks.

The study was, therefore, designed to investigate how AI-driven digital agriculture can mitigate some of these challenges with a focus on the economic viability and policy implications of Climate-Smart Agriculture (CSA). Indeed, AI oriented technologies like remote sensing and predictive analytics have been found to increase crop yields. Consequently, this study adopted a pragmatic research philosophy by combining quantitative data from a survey of 364 respondents who are mainly farmers and agritech providers, with qualitative data obtained from policymakers and experts in the field of agriculture. Preliminary findings reveal that digital agriculture adoption in sub-Saharan Africa faces challenges such as misalignment of policies, poor technical infrastructure and economic barriers. A thematic analysis of 21 policy documents from the region, which include countries such as Nigeria, Ghana, Kenya, and Zimbabwe points to the fact that there is a wide gap in regulatory frameworks regarding ethical use of AI and data privacy. This is a serious challenge for integrating AI responsibly. Again, the cost-benefit analysis result reveals that investment into AI technologies and tools by the small-scale farmers in the region is difficult because the implementation cost on per hectare basis ($1500) is higher compared to the farmer's annual income, which is an average of $500 per hectare.

Given the preliminary findings, the study is likely to recommend interdisciplinary frameworks to address economic, policy and technological blockades and advocates for AI policies that are context-specific, as well as economic incentives and capacity building programmes that would

Perceptions of AI's Role in Supporting UN SDG 4 (Quality Education) in Knowledge Centres in South West, Nigeria.

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Abstract

As Artificial Intelligence (AI) becomes integral to educational innovation, understanding its role in promoting UN SDG 4: Quality Education within knowledge centres in South West, Nigeria is essential. This paper investigates how AI technologies are perceived as supporting accessible, inclusive and high-quality education across academic libraries and research institutions in South West, Nigeria. Using a questionnaire-based approach, this study will gather insights from students, educators, library professionals and researchers to understand the current and potential contributions of AI to educational outcomes in the South Western, Nigeria context.

The study will explore users' awareness and perceptions of AI's effectiveness in enhancing educational access and quality, identifying barriers such as infrastructure limitations, training gaps and ethical concerns that may affect the successful integration of AI for educational purposes. Additionally, it will examine AI's role in bridging resource gaps, enabling personalized learning and supporting digital literacy, ultimately aligning with the objectives of SDG 4.

Our findings are expected to highlight key factors influencing AI adoption for educational purposes and provide actionable recommendations for knowledge centres, policymakers and educational institutions to effectively leverage AI for sustainable development in education. By examining these perspectives, this paper will contribute to the broader dialogue on AI's role in sustainable development and the advancement of quality education in South West, Nigeria, aligning with the conference theme on AI-powered sustainable solutions. This research addresses a critical gap in understanding AI's potential in South Western, Nigeria educational contexts and supports evidence-based strategies for impactful AI integration.

Keywords

- AI in Education
- Sustainable Development Goals (SDG 4),
- Knowledge Centres

Bridging Gaps; Leveraging AI driven Partnerships to Advance One Health Training and Education in Africa

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[1,2,3,4]Livestock Management Services

Abstract

Background: One-Health training and education in Africa faces numerous challenges, including lack of collaboration, limited resources, & inadequate infrastructure. In response, partnerships between individuals, academic institutions, governments, non-governmental organizations, and international stakeholders have emerged as powerful tools using AI resources for transforming One Health Training and Education across the continent. According to Angyiba Serge Andigema et al., Artificial Intelligence (AI) has the potential to completely transform healthcare delivery in Africa in two areas: telemedicine and remote patient monitoring. Particularly in areas with restricted access to medical facilities, these technologies allow the remote provision of healthcare services, therefore reducing the distance between patients and medical experts. By increasing access to care, cutting costs, and enabling patients to actively participate in their own healthcare management, AI-driven telemedicine and remote patient monitoring systems have enormous potential to improve health outcomes. The review focuses on identifying successful partnership models, their impact of incorporating AI on One-Health training and education quality, and how collaboration is helping to bridge gaps in curriculum development, and student outcomes.
Methods: A scoping review was conducted. Databases such as PubMed, Google Scholar, were searched using key terms like “Artificial Intelligence”, “Partnerships” “Collaboration, One Health,”. Studies that discussed partnerships between individuals, academic institutions, governmental bodies, and international stakeholders aimed at advancing the incorporation of AI on One-Health training and education were included. Stakeholders one on one meeting was conducted using zoom meeting as the source of communication and LinkedIn was used as the source of outreach. Data focused on types of partnerships, areas of collaboration (e.g., curriculum reform), and the outcomes of these initiatives of AI on One-Health training and education.
Results: Preliminary findings reveal that partnerships have been instrumental in enhancing the quality of AI on One-Health training and education in Africa through curriculum reform, capacity building, and access to technology and training resources. Successful models include collaborations between Individuals and other researchers have strengthened learning frameworks.
Conclusion: Partnerships are playing a pivotal role of Artificial Intelligence in One-Health training and education across Africa by bridging resource gaps, and enhancing health outcomes. Further research is needed to evaluate the long-term impact of these partnerships on Artificial Intelligence in One-Health Collaboration across the continent.

A Machine Learning Named Entity Recognition Application for Nigerian Names

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Abstract

"Named Entity Recognition (NER) is a process that categorises words in a document into specific groups, such as names, locations, and organisations. This is essential for information searching, translating languages, extracting relevant data, and answering questions. A large number of Nigerians have middle names or first names in English such as Happiness, Joy and Peace, that can be classified as either nouns or verbs. These names are unfortunately classified as verbs alone by existing Large Language Model. This work proposed to develop a machine learning named entity recognition (NER) system for identifying English words that are used as Nigerian names. The experimental approach combined a rule-based NER model that used defined patterns to identify potential names and a RoBERTa machine-learning model that further processed and refined entity recognition based on context. A custom dataset of 2000 Nigerian-English names
and their parts of speech was compiled and utilised for both training and evaluation purposes. A web-based user interface was developed to facilitate user input and visualisation of the detected Nigerian names within the input sentences. The results show that the model has a robust performance, with an accuracy of 97.51%, precision and recall values of 0.99 for nouns and 0.98 for verbs. The potential for this application include essay grading and content generation by artificial intelligence applications."

Gamified Learning of Employability Skills Using Artificial Intelligence (GLESAI)

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Qualifications are no longer sufficient for identifying suitable employees. It is now the norm for establishments to seek for employees with employability skills such as teamwork, communication, organization and planning, problem solving, ability to take initiative and critical thinking. Higher educational institutions do not teach such skills thus learning employability skills is the responsibility of the employee. Games have been identified as one of the ways to learn and this can be extended to adults. Games have the potential to get people's attention for longer period of time and coupled with its addictive tendencies, its use for teaching and learning must be controlled. This work seeks to use scenario-based games to teach employability skills using artificial intelligence (AI) algorithms to interact and assess the user learning level. A cloud-based solution that allows multiple learners to connect to a scenario of their choice is proposed. The interactions are analyzed by AI algorithms to determine if the skills expected from the scenario are being learnt. After each interaction with the game, each user is assessed by the AI-algorithms. The user is expected to exceed a threshold value before the employability skill is assumed to have been learnt. Reports and certifications of employability skills can be based on aggregated interactions.

AI-Driven Sustainable Solutions for Archives preservation in Resources- Constrained Countries: Pioneering the Future of Knowledge System

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Abstract

This study examines the transformative potential of artificial intelligence (AI) in archival preservation in resource-constrained countries. Through content analysis of literature, case studies, and reports, it identifies advancements like automated metadata tagging, digitization, and predictive analytics. The findings reveal AI's ability to enhance preservation and accessibility while addressing challenges such as biases, resource limitations, and ethical concerns. Recommendations are provided for integrating AI into archival practices, aligning with sustainable development goals. Policymakers, practitioners, and researchers can leverage these insights to drive innovations in archives management.

Keywords

- Archives Management,
- Artificial intelligence
- AI-driven solutions,
- Sustainable development

The Role of Artificial Intelligence in Enhancing School Management in Developing Countries.

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Abstract

Artificial intelligence systems have seen rapid development and increased application in the last few years. It is clear how these phenomena affect scientific disciplines in general and educational areas in particular. Decision-makers, school managers, teachers, and other educational organizations now have much work to do to update their strategies, tactics, and policies to reflect the data of the modern artificial revolution. This study highlights how artificial intelligence can improve school management in developing countries. The study concludes that investing in artificial intelligence is essential because it provides a solid basis for bolstering the role of school managers and teachers by raising student achievement and increasing the efficacy and efficiency of the teaching and learning processes.

Keywords

- School Management
- Education,
- Artificial intelligence
- Teachers Decision-makers

Assessing the impact of AI-bases library instruction on students learning outcomes in Nigerian Universities

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Abstract

The study will examine the impact of artificial intelligence (AI)-based library instruction on student learning outcomes in Nigerian universities. AI-based library instruction utilizes intelligent systems to provide personalized, adaptive, and interactive learning experiences, equipping students with the skills to navigate complex academic tasks and research effectively. The study will be conducted in Ignatius Ajuru University of Education (IAUE) and University of Port Harcourt (UNIPORT). A survey design would be adopted for the study. A total of 1,040 students will be selected using simple random sampling, with 520 students chosen from each school. This technique is considered one of the most accurate and easiest ways to study large populations. It is based on the idea that each unit in the sample has an equal chance of being included. Taro Yamene formula will be used to select a sample size of two hundred and eighty-seven (287) from the total population. A self-structured questionnaire will serve as an instrument of data collection. The data collected will be analyzed using mean and standard deviation, and t-test inferential tool will be employed to test the null hypotheses at the 0.05 level of significance. The study will provide insights into how AI can transform library services into dynamic learning environments that support diverse student populations. The findings will stress the importance of strategic investment in AI technologies as a means of improving higher education outcomes and preparing Nigerian students for the demands of a rapidly evolving digital economy.

Keywords

- AI-based library instruction
- student learning outcomes
- information literacy

Adoption and Implementation of AI-powered Library Applications as a Catalyst for Enhanced Archives and Records Management in Academic Libraries in Nigeria

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Abstract

The integration of Artificial Intelligence (AI) in library systems have revolutionized archives and records management, offering Academic libraries the opportunity to enhance efficiency, accessibility, and accuracy. Application of Artificial Intelligence (AI) in libraries have also transformed archives and records management globally. This study will investigate the adoption and implementation of AI-powered library applications in academic libraries in Nigeria by examining their potential as catalysts for improved archives and records management. The main objective of this study is to investigate the adoption and implementation of AI-powered library applications in Nigerian academic libraries, examining factors influencing adoption, impact on archives and records management, and challenges encountered. The research will employ a mixed-methods approach, combining surveys of library professionals and users with case studies of academic libraries in Nigeria that have adopted AI tools for archival processes. Key focus areas will include automation of cataloging and indexing, predictive analytics for resource usage, and the application of Natural Language Processing (NLP) for metadata generation and retrieval. The study will also explore the challenges faced by Academic libraries such as; level of awareness, infrastructural limitations, budgetary constraints, the need for capacity building among library staff and policy frameworks amongst other issues that can impede full-scale adoption of AI in archives and Records management while revealing the gaps in the study as well. This paper will conclude by proposing actionable strategies for effective AI adoption such as emphasizing the need for stakeholders collaboration, targeted training programs, and the development of localized AI solutions that align with the unique needs of Nigerian Academic libraries. By addressing these issues, Academic libraries should be able to modernize their archival practices and contribute to preserving cultural heritage and advancing research in

Keywords

- Artificial Intelligence
- Archives and Records Management
- Academic Libraries,
- Nigeria, AI-powered Applications,
- Library Technology Adoption

AI-Driven Resource Management for Library Sustainability

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Abstract

Artificial intelligence (AI) is significant in transforming library resource management for library sustainability for the purpose of discoursing the environmental pitfalls that library is facing. This study will examine AI-driven resource management for library sustainability by focusing on empirical review of related studies on library sustainability. The research method of this study will focus on reviewing empirically by examining the evidence-based libraries and other sectors that is utilizing AI in optimizing the resource allocation and utilization, AI-driven in enhancing the energy efficiency and influence of AI in achieving the sustainable development goals (SDGs) in relation to eco-efficiency, environmental sustainability, green libraries, and climate change in the library. The findings of this study will possibly disclose how AI is used in the libraries and other various sectors to enhance the efficiency of organizational operation, and how it is used to offer accurate predictions on resource allocation. The findings of this study will reveal how AI is used to determine the inaccurate and inefficiencies of resource utilization. The finding of this study will be able to unveil how AI can be used to establish the reduction of waste generation, and how AI-driven can be used to improve the reuse, recycle, and reduction in the libraries and industries and others sectors. The study will conclude on the significant of AI-driven in library resource sustainability and its management. The study will also conclude on potential of AI analytics and machine learning in forecasting the reduction of environmental impact in order to achieve the economic benefits of artificial intelligence. Therefore, this study will be able to shed light on what necessitate AI potential benefits for library sustainability and greener future of the library.

Transforming Research Support Services: The Role of AI Integration in Academic Libraries in Tanzania

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The Mwalimu Nyerere Memorial Academy, Dar es Salaam, Tanzania

Abstract

Purpose: This research work examines the integration of Artificial Intelligence (AI) in academic libraries to enhance the provision of research support services. The objective is to investigate the potential of AI technologies to enhance operational efficiency, accessibility, and the overarching quality of research services. Specifically, the research aims to: (1) assess the present utilization of AI in research support services across selected academic libraries in Tanzania and (2) analyze the implications of AI integration on the efficiency and efficacy of research support delivered by information professionals. Research Design/Methodology/Approach: A mixed research approach has been selected to facilitate both a comprehensive and nuanced understanding of the phenomenon under investigation. This methodological framework integrates quantitative surveys with qualitative in-depth interviews, thereby allowing for the triangulation of data which enhances both reliability and validity of the findings. The study population is composed of librarians and information professionals drawn from ten purposively selected academic libraries located in Tanzania. The sample encompasses 100 participants for the quantitative survey and 20 librarians for the qualitative interviews. The criteria for the selection of these libraries include the integration of AI tools, the variety of research support services provided, and the representation of diverse geographical areas. Stratified random sampling is employed to ensure that various roles and levels of experience within the libraries are adequately represented. For the qualitative interviews, librarians who are actively engaged in the delivery of AI-based services will be selected through purposive sampling. Data collection entails the use of structured questionnaires to collect quantitative data regarding the utilization, advantages, and challenges associated with AI, while semi-structured interviews yield rich qualitative insights into the perceptions and experiences of librarians. Findings: The research endeavors to elucidate the degree to which artificial intelligence is presently employed in research support services and its concrete advantages, including improved operational efficiency and increased user contentment. Furthermore, it aims to pinpoint obstacles, such as deficiencies in competencies among librarians and limitations in resources, that could impede the integration of AI. The results of this investigation will yield practical insights into the function of AI in the evolution of library services. Originality: This research addresses a significant gap in understanding the integration of AI in academic libraries, particularly in the context of Tanzania. It highlights the transformative potential of AI in shaping the future of library services, offering new perspectives for policymakers, librarians, and technology developers. Practical Implications: The findings will serve as a basis for recommending targeted capacity-building programs for librarians to enhance their AI literacy and skills. Additionally, the study will provide guidance for libraries on optimizing AI tools to improve service delivery. Policymakers and institutional administrators will benefit from evidence-based strategies to allocate resources for AI implementation in academic libraries.

Keywords

- Artificial Intelligence
- Academic Libraries
- Research Support Services
- Library Innovation

AI and Christian Ethics: Bridging Innovation and Sustainability in Information and Library Management for Equitable Access

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Abstract

Artificial Intelligence (AI) is transforming how information and libraries are managed, making it easier to organize, share, and access knowledge. However, these advancements pose challenges such as biases in AI systems, data privacy concerns, and unequal access to technology. To address these issues, this paper explores how Christian values like fairness, responsibility, and care for others can guide the ethical use of AI in these fields. The study examines practical applications of AI, such as automated cataloging, language translation, and personalized resource recommendations. It highlights how libraries, particularly in underserved communities, can leverage AI to expand access to educational and informational resources. By integrating Christian ethics, the paper suggests actionable steps such as creating ethical guidelines for AI, fostering collaboration between churches and technologists, and providing training programs to enhance information and digital literacy. Using qualitative research with focus group interviews, and ethical framework analysis, this study explores real-world examples of AI in libraries and information management. The research aims to provide insights into how Christian ethics can guide AI adoption in a way that promotes equity and sustainability. The study emphasizes that AI, when aligned with ethical principles, has the potential to democratize information and empower marginalized communities. The presentation is intended for researchers, pastors, librarians, and policymakers interested in ensuring that AI fosters fairness, inclusivity, and sustainability. By combining technology with Christian values, this study aims to inspire innovative, responsible, and impactful use of AI in information and library management globally.

Keywords

- Artificial Intelligence (AI)
- Christian ethics
- Information management
- Library management systems and Equitable access

AI-driven Resource Management for Library Sustainability

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Abstract

Artificial intelligence (AI) is significant in transforming library resource management for library sustainability for the purpose of discoursing the environmental pitfalls that library is facing. This study will examine AI-driven resource management for library sustainability by focusing on empirical review of related studies on library sustainability. The research method of this study will focus on reviewing empirically by examining the evidence-based libraries and other sectors that is utilizing AI in optimizing the resource allocation and utilization, AI-driven in enhancing the energy efficiency and influence of AI in achieving the sustainable development goals (SDGs) in relation to eco-efficiency, environmental sustainability, green libraries, and climate change in the library. The findings of this study will possibly disclose how AI is used in the libraries and other various sectors to enhance the efficiency of organizational operation, and how it is used to offer accurate predictions on resource allocation. The findings of this study will reveal how AI is used to determine the inaccurate and inefficiencies of resource utilization. The finding of this study will be able to unveil how AI can be used to establish the reduction of waste generation, and how AI-driven can be used to improve the reuse, recycle, and reduction in the libraries and industries and others sectors. The study will conclude on the significant of AI-driven in library resource sustainability and its management. The study will also conclude on potential of AI analytics and machine learning in forecasting the reduction of environmental impact in order to achieve the economic benefits of artificial intelligence. Therefore, this study will be able to shed light on what necessitate AI potential benefits for library sustainability and greener future of the library.

Challenges to Libraries Sustainability in Southern Africa Culture, Identities and Global Transformations

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Abstract

AI information storage and dissemination continue to be a crucial aspect of a global transforming society. Maintaining identities and Sustainability requires great creativity and innovations. Many libraries have struggled to maintain their identities, cultures and purpose due to the global transformations. This paper discuss the challenges libraries in Africa specifically Southern Africa are faced with while trying to maintain their identities and cultures in view of global sustainability. This research is a case study of Southern African libraries and how they have been impacted by global transformations. The paper argued that contemporary societal transformations have impacted heavily on Africa libraries and this in turn has influenced identities, access and practice. The paper concludes by stating that although global technological transformations are unavoidable some libraries in Africa still struggle to cope with such transformations amidst cultural identities dilemmas. This qualitative case study research explores trends specifically in Botswana, Lesotho and Zimbabwe.

Keywords

- Culture
- Digitilization Identity
- Libraries
- Southern Africa
- Sustainability.

Integrating AI to Enhance Information Literacy in Academic Libraries in Developing Countries

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Abstract

The integration of Artificial Intelligence (AI) in academic libraries presents a significant opportunity to enhance information literacy in developing countries, where traditional educational resources and training are often limited. This abstract explores how AI technologies can address the unique challenges faced by these libraries, focusing on their potential to improve information literacy skills among students and faculty. Information literacy is essential for academic success, enabling individuals to effectively locate, evaluate, and utilize information. However, many academic libraries in developing countries struggle with inadequate resources, limited staff training, and outdated information systems, which hinder their ability to provide comprehensive information literacy programs. AI can help overcome these barriers by automating routine tasks, personalizing learning experiences, and providing real-time assistance to users. For instance, AI-driven chatbots can offer 24/7 support, answering common queries and guiding users through library resources, thereby enhancing user engagement and satisfaction. Additionally, AI can analyze user behavior and preferences, allowing libraries to tailor their information literacy programs to meet the specific needs of their communities. This personalized approach improves the relevance of training and fosters a more inclusive learning environment. Furthermore, AI technologies such as natural language processing can enhance information retrieval systems, making it easier for users to find relevant materials using conversational queries rather than traditional keyword searches. However, the successful integration of AI also requires addressing ethical considerations, such as data privacy and algorithmic bias. Training programs focused on AI literacy for library staff are essential to empower them to effectively utilize these technologies and educate users about their implications. By leveraging AI, academic libraries can enhance their information literacy initiatives and contribute to broader educational goals.

The Influence of AI on Work Attitudes in Knowledge-centric Environments

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Abstract

Artificial Intelligence (AI) technology and its various tools have pervaded contemporary research and constitute one of the most frequently mentioned topics in various fields of human interest. Its application is evident in several fields like banking, aviation, medicine, agriculture, hospitality and education. This article is a review of AI technology and its influence on work attitudes in knowledge-centric environments inclusive of the academic library. It aims to reveal the existence and adoption of AI technology in knowledge-centric environments like the academic library, showing precise areas and library functions where AI has been integrated while underscoring positive and negative implications of this technology on employees' work attitudes. Literature revealed AI inclusion in the academic library environment in most continents of the world. Impressively, the African continent is not excluded in the trend as some academic libraries in Kenya, South Africa and Ghana have integrated AI in their services. AI technology is equally underway in Nigerian academic libraries where tools such as the machine learning algorithms, natural language processing and predictive analytics are being utilized for cataloging and classification, indexing services, frequently asked questions and collection development. Concerning its influence on employee work attitudes, literature showed that AI technology has a double-barreled influence, fulfilling the performance of tasks and enhancing job satisfaction in employees and yet, instilling anxiety and panic about their job control and security. The paper concludes that artificial intelligence (AI) technology has both positive and negative impacts on work attitudes and recommends that given these nuanced potentials of AI, the management of these knowledge-centric workplaces need to have an equilibrial approach of training and rebuilding employees confidence to quell feelings of mistrust, panic and fear about AI while sustaining and disposing AI as a collaborative tool and not a replacement of the workforce.

Revolutionizing Collection Development in Libraries Using AI

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Abstract

The advent of Artificial Intelligence (AI) is transforming the landscape of every sector and library collection development, offering unprecedented opportunities to enhance the efficiency, relevance, and accessibility of library resources. Traditionally, collection development basically relied on speculative collection development, subjective selection, and static data analysis. However, the integration of AI-driven tools and techniques can go a long way revolutionizing these practices by automating workflows, analyzing vast datasets, and providing predictive insights into user needs and trends. This study on revolutionizing collection development using AI explores how AI can optimize collection development by leveraging machine learning algorithms, natural language processing, and predictive analytics to curate diverse and inclusive collections. Key applications include demand forecasting, users' behavior analysis, automated cataloging, and personalized resource recommendations. Additionally, AI enables libraries to identify gaps in collections, ensure equity in representation, and adapt to evolving knowledge landscapes. Despite its transformative potential, challenges such as data privacy, algorithmic bias, and ethical considerations are to be addressed to fully harness AI's capabilities. By embracing AI, libraries can redefine their role as dynamic, user-centric hubs of knowledge in the digital age, ensuring that their collections remain relevant and impactful for diverse communities.

Assessment of Lecturers' Awareness, Readiness and Utilisation of Artificial Intelligence for Education in a Nigerian University

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Abstract

The study assessed lecturers' awareness, readiness and the utilisation of Artificial Intelligence for education in a Nigerian university. The study adopted a descriptive survey research design. The population of this study comprises of 903 lecturers in Federal University of Technology (FUT) Minna Niger State. Proportionate Stratified Randomly Sampling Technique was used to select 271 lecturers across the nine schools in a University in Nigeria. The study was guided by 12 research questions with corresponding nine research hypotheses. A researcher-designed structured questionnaire was used for data collection which contains four sections: namely, Section A, Section B, Section C, Section D. Section A was based on the demographic data of the respondents, while Section B, C and D contains 30 items each to collect data on lecturers' awareness, readiness and utilisation of Artificial Intelligence for Education respectively. The questionnaire was validated by four experts. It was pilot tested and the data obtained were subjected to statistical analysis using Cronbach Alpha Correlation Formula and reliability coefficients of 0.87, 0.80, and 0.82 were obtained for awareness, readiness and utilisation of Artificial Intelligence respectively. The instrument was reliable. Descriptive Statistics of Mean and Standard Deviation were used to answer the research questions, while inferential statistics of Independent Samples t-test and One-way ANOVA were used for testing the hypotheses at 0.05 level of significance. Findings of the study revealed that lecturers are aware of AI with a grand mean of 2.57, lecturers are ready to use AI with a grand mean of 3.12, and lecturers rarely used AI with a grand mean of 1.85. Independent samples t-test analysis of showed that $t = 1.047$, $p>0.05$ which indicates no significant difference in the mean response of male and female university lecturers' level of awareness of Artificial Intelligence for education, $t = 2.157$, $p>0.05$ indicating no significant difference in the mean response of male and female university lecturers' readiness to use Artificial Intelligence. One-way ANOVA reported that $F(2,268)= 0.480$, $p = 0.619$, $p>0.05$ indicating no significant difference in the mean response of university lecturers with different academic qualification on their awareness of Artificial Intelligence for education. However, One-way ANOVA reported that $F(2,268)= 5.088$, $p = 0.007$, $p<0.05$ indicating a significant difference in the mean response of university lecturers with different academic qualification on utilisation of Artificial Intelligence for education in favour of lecturers with Bachelor Degree. The study recommended that lecturers should acquire knowledge and skills on the use of AI technologies to ease their demanding work and tasks. Periodic conferences, seminars and workshops should be organise for Nigerian lecturers to keep them abreast with the numerous available AI technologies that can augment their teaching process, assessment and research. Universities management should provide enabling environment and functional AI technologies and make them accessible for lecturers and students to effectively use AI technologies. Government organisations, agencies and Non-Governmental Organisations should fund more researches in Artificial Intelligence in Nigeria, procure AI technologies that can ease the demanding tasks of Nigerian lecturers.

Communication and Integrity: Safeguarding Academic Standards in the Artificial Intelligence (AI) Era

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Abstract

The application of Artificial Intelligence (AI) in academia has become a widely discussed subject in education. AI tools including ChatGPT, SciSpace, Co-pilot, Gemini, Vizard, and several others provide numerous advantages. These include improved personalized learning for students, upskilling students to bridge the technology gaps, and improved grading systems for immediate feedback to students. However, it also brings up concerns about academic integrity and the potential for plagiarism. This paper explores the benefits and challenges associated with using AI tools in higher education, highlighting both the potential advantages and risks of these tools. This paper also addresses the challenges of identifying and preventing academic misconduct, offering strategies for universities to promote the ethical and responsible use of these tools. These approaches involve developing policies and guidelines, offering training and support, and employing diverse techniques to identify and prevent cheating. It concludes that although the use of AI in higher education brings both opportunities and challenges, universities can effectively navigate these issues by adopting a proactive and ethical approach to its implementation.

Keywords

- AI tools
- Academic Misconduct
- Plagiarism
- Higher Education
- Ethics

Algorithm of Inclusion and AI's Path to Equitable Education in Developing Countries

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Abstract

Equitable education is a cornerstone for sustainable development since it provides the platform for education for all. The SDG 4 and EFA are global initiatives which focus of accessible, qualitative and equitable education for all irrespective of creed, race, ethnic, colour and physical abilities. Meanwhile, achieving inclusivity and representation in developing countries remains a persistent challenge with barriers such as socioeconomic disparities, disabilities, linguistic diversity, and limited access to quality resources hindering many learners from accessing education and reaching their full potential. Artificial Intelligence (AI) offers a transformative pathway to address these challenges, leveraging its adaptive, scalable, and innovative capabilities to bridge gaps in access and representation.

This paper presents a systematic review of the role of AI in fostering inclusive and representative education in developing countries. Drawing from a diverse array of studies, it examines AI-driven strategies, including personalised learning platforms, assistive technologies for students with disabilities, and multilingual educational tools that cater for diverse cultural and linguistic needs. However, the review also identifies significant challenges, such as infrastructural deficits, the digital divide, ethical concerns surrounding algorithmic biases, and the sustainability of AI initiatives in resource-constrained environments. To address these gaps, the paper proposes actionable recommendations, including cross-sector collaborations, targeted policy interventions, and capacity-building efforts for educators and learners alike. By synthesising evidence and providing strategic insights, this study underscores the critical role of AI as a catalyst for equitable and inclusive education in developing countries, laying the foundation for a future where education truly leaves no one behind.

Keywords

- Artificial Intelligence
- Equitable Education
- Developing Countries
- Inclusive and Representative Education

Bridges of Inquiry: Uniting Methods for Deeper Insights in Information Science

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Abstract

The choice of research methods is very important to the growth and development of every profession, including library and information science profession because it significantly impacts the depth, quality, and applicability of research findings. Over the years, researchers have relied on either qualitative or quantitative method in the processes of carrying out their researches, each offering distinct advantages and facing specific limitations. However, while quantitative method offer valuable tools for research in the library and information profession, their exclusive use presents significant limitations which include, failure to capture the contextual, complex, and nuanced aspects of library and information environments because they tend to oversimplify issues, introduce biases, and provide limited insights into user experiences and emergent trends. The limitations of the qualitative method is found in its inability to provide the results that can be generalised, potential for bias, complexity of data analysis and limited ability to measure trends as well as its resource-intensive nature. In order to address these challenges, a balanced approach that integrates both qualitative and quantitative methods is essential in the form of mixed methods (MMs).

Mixed methods emerged as the third movement in the research methodology domain and has gained significant traction over the past few decades as a robust methodological approach that integrates both qualitative and quantitative techniques and leverages on the strengths of each method to provide a more comprehensive understanding of complex research questions. The use of MMs for researches in library and information science provides an approach that has the capability to enrich the understanding of complex phenomena as well as enhancing the reliability, validity, and applicability of research findings, ultimately contributing to more effective and informed decision-making in the LIS profession. Moreover, the integration of MMs in LIS research aligns with the profession's practical orientation due to the fact that librarians and information professionals are often tasked with applying research findings to improve services, systems, and user satisfaction. Meanwhile, despite the strength and benefits derivable from MM, the extent of its adoption in LIS research is still not clear

This study intends to adopt a systematic review framework to investigate the extent of adoption of MM in LIS research with specific focus on the specific types of MM design adoption that is prevalent in researches conducted by LIS researchers and professionals.

Machine Intelligence as Predictors of Efficient Information Retrieval among Researchers in Federal University Libraries in South-South Nigeria

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Abstract

The rapid technological advancements in the modern world have significantly influenced various organizational operations, including those in academic institutions. Libraries, which serve as critical hubs for research, productivity and learning are now adopting machine intelligence tools to enhance efficiency in information retrieval. These tools, including search engines, chatbots, virtual assistants, recommender systems, and natural language processing applications, are transforming the way researchers access and utilize information. However, despite their potential, machine intelligence adoption in libraries has raised concerns about its actual effectiveness in predicting and facilitating efficient information retrieval. These advancements may foster a perception of self-sufficiency among researchers, potentially affecting the optimal use of library resources. This study aims to explore the predictive capacity of machine intelligence in information retrieval among researchers in Federal University libraries within South-South Zone of Nigeria. The study seeks to bridge the gap between technological advancement and the strategic utilization of library resources in fostering academic excellence. Using a descriptive survey research design, the study will investigate researchers' awareness and access to machine intelligence, information retrieval proficiency, and the impact of these technologies on retrieval. Data will be collected using a self-structured questionnaire administered to researchers who regularly use these libraries. The findings of this research will provide valuable insights into the effectiveness of machine intelligence in academic library settings and offer recommendations for optimizing these tools to support the evolving needs of researchers, ensuring libraries remain integral to academic innovation and knowledge development.

Impacts Of Artificial Intelligence (AI) on Information Services Delivery In Libraries: A Case of The Catholic University Of Eastern Africa Library

Lydia Narumbe Chegem[1] Everlyn Anduvare[2]

Abstract

The increasing integration of Artificial Intelligence (AI) in library operations is transforming the landscape of information service delivery. This study examines the impact of AI on library services at the Catholic University of Eastern Africa (CUEA) Library, highlighting its role in improving accessibility, efficiency, and user experience. With the proliferation of digital information, traditional methods of information retrieval are becoming insufficient, necessitating the adoption of AI technologies such as machine learning, virtual assistants, and automated cataloging systems. The study aims to (1) determine the impacts of AI in academic libraries, (2) explore how AI is utilized at the CUEA Library, and (3) propose strategies for its effective adoption. A descriptive survey research design, incorporating both quantitative and qualitative approaches, will be employed. The research will target CUEA library staff and department heads, using convenience sampling to select participants. Data will be collected through self-administered questionnaires and analyzed using SPSS software, with findings presented in descriptive statistics such as frequencies and percentages. By evaluating the application of AI in CUEA Library's operations, this research seeks to provide insights into its benefits and potential areas for improvement. The study will contribute to the broader discourse on AI adoption in academic libraries, offering recommendations for enhancing information service delivery in response to evolving technological demands.

Empowering Lifelong Learning: AI in Educational Platforms for Sustainable Development- A Survey of Library and Information Science Educators in Nigeria

Prof. Chinwe. Nwogo Ezeani[1] Prof. Esoswo. Francisca.Ogbomo[2] Dr Nneka .Uchenna. Nwankwo[3] Annabel Onyeisi Ijeh[4]

[1,2,3,4,]The University of Nigeria, Nsukka. Nigeria

Abstract

This paper examined the pivotal role of AI in education and learning platforms, focusing on its capacity to drive innovation, enhance accessibility, and uphold ethical practices in pursuit of sustainable development. The paper will explore key applications, such as adaptive learning systems for personalized content delivery, gamified platforms that boost students' engagement, and AI-driven tools that streamline educators' administrative tasks in library and information science departments in Nigerian universities. The paper will explore critical gaps in traditional educational systems to improve access for differently abled learners within university communities. Furthermore, this paper will investigate challenges with integrating AI in education, such as data privacy concerns, algorithmic bias, and ethical considerations. The study population will comprise four hundred and thirty (430) registered members of the Nigerian Association of Library and Information Science Educators (NALISE), an online forum. The survey will be conducted online using Google documents. This research underscores the need for a balanced approach that incorporates stakeholder collaboration, robust ethical frameworks, and regular evaluations of AI systems to ensure equitable and transparent outcomes. By exploring the intersection of technology, education, and sustainability, the paper will contribute to the discourse on creating equitable and innovative learning environments. It calls for interdisciplinary collaboration to tackle ethical dilemmas and fully harness AI's potential in education. The findings offer actionable insights for policymakers, educators, and technologists aiming to shape a sustainable and inclusive educational future.

The Moderating Role of Digital Advertising on Consumer Behavior in the Pharmaceutical Industry

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Abstract

This study explores the moderating role of digital advertising in shaping consumer behavior within the pharmaceutical industry in Oyo State, Nigeria. The study aims to understand the influence of digital advertisement content, the effectiveness of social media platforms, and the role of cultural differences in shaping consumer purchasing decisions. The study employed a cross-sectional survey design and gathered data from 400 consumers of pharmaceutical products with the aid of well-structured questionnaires. Both regression and factor analyses were used to analyse the data. Findings from this study show that digital advertising not only enhances brand visibility but also affects consumers' trust and engagement with pharmaceutical products. Also, cultural differences do not moderate the relationship between digital advertisement and consumer behaviour, but affects the overall effectiveness of digital advertising campaigns in the region. Recommendations were made for pharmaceutical companies to optimize their digital advertising strategies to foster strong positive consumer relationships.

Leverage Artificial intelligence for Green and sustainable library practice: innovation and implications

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Abstract

Leveraging Artificial Intelligence for Green and Sustainable Library Practices: Innovations and ImplicationsAbstractThis study investigates the role of artificial intelligence (AI) in fostering green and sustainable practices in libraries and aims to bridge the gap between technological advancements and environmental sustainability in library operations. The research systematically reviews literature sourced from Scopus, Web of Science, Scimago, and Google Scholar, focusing on studies published between 2019 and 2024. Findings reveal that AI-driven solutions significantly enhance energy efficiency, optimize resource management, and reduce environmental footprints in libraries. Notable applications include AI-powered smart lighting systems, predictive maintenance of library infrastructure, and automated resource allocation for improved waste management. Despite these advancements, the paper identifies barriers such as high implementation costs, knowledge gaps among library staff, and ethical concerns regarding AI deployment. The study concludes that AI offers transformative potential for achieving sustainable library practices but requires strategic planning, stakeholder collaboration, and investment in digital literacy. This study contributes to the growing discourse on sustainable development in libraries and further provides actionable insights for policymakers, library administrators, and researchers seeking to align library services with global sustainability goals.

Keywords

- Artificial Intelligence
- Sustainable Libraries
- Green Practices
- Environmental Sustainability
- Library Innovations

Design and Simulation of an Automatic Number Plate Recognition (ANPR) System.

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[1,2]Obafemi Awolowo University

Abstract

As cities continue to urbanize rapidly, the demand for efficient and reliable vehicle identification systems has become increasingly critical for various applications, such as smart city infrastructure, optimized traffic management, and law enforcement. Automatic Number Plate Recognition (ANPR) systems have emerged as a promising solution to address these needs. However, traditional ANPR systems face significant challenges in achieving high accuracy under diverse environmental conditions, including varied license plate formats, changing camera angles, and inconsistent or poor lighting. These limitations emphasize the necessity for more adaptable and robust ANPR systems capable of operating effectively in real-world scenarios.

The primary purpose of this study is to design, simulate, and evaluate a state-of-the-art ANPR system using advanced deep learning techniques. The aim is to enhance detection and recognition accuracy, ensuring reliable performance even in complex and challenging environments. The development of a highly accurate and efficient ANPR system is crucial for improving traffic management, strengthening law enforcement operations, and contributing to the broader objectives of intelligent transportation systems.

The proposed system leverages the Single Shot Multibox Detector (SSD) MobileNet architecture, which balances high detection accuracy with computational efficiency, making it suitable for real-time applications. The implementation was carried out using TensorFlow within a structured experimental framework. The dataset used for model training and testing comprised 433 vehicle images with annotated license plates sourced from Kaggle, supplemented with an additional 54 images collected from various real-world environments. These additional images were specifically chosen to introduce variations in lighting conditions, camera angles, and plate formats, thereby increasing the diversity and robustness of the dataset. The model was trained on 409 images, with 24 images set aside for validation, while the 54 additional images were dedicated to comprehensive testing.

During the license plate detection phase, the system identified and localized license plates within images, followed by character recognition using EasyOCR. EasyOCR was selected for its high performance in recognizing diverse fonts, character sizes, and plate formats. The text extraction accuracy was evaluated using the Character Recognition Rate (CRR), a standard metric in optical character recognition research, ensuring a detailed assessment of the system's performance.

The evaluation of the system involved a comprehensive set of performance metrics, including accuracy, precision, recall, and F1-score, which provided a holistic understanding of its detection and recognition capabilities. Additionally, the model's performance was assessed using COCO (Common Objects in Context) detection metrics, with a specific focus on mean Average Precision (mAP) to gauge the precision of detections across varying Intersection over Union (IoU) thresholds.

The results of the study are promising - the ANPR system achieved a mean Average Precision (mAP) of 97.10% for vehicle detection, demonstrating its robustness and reliability. The overall recognition accuracy was 90.90%, and the integration of EasyOCR yielded a Character Recognition Rate (CRR) of 93%, confirming the system's effectiveness in accurately extracting alphanumeric characters from license plates. These findings highlight the system's potential for practical deployment in urban environments, including applications in traffic monitoring, automated parking enforcement, and enhanced security measures.

Effect of Digital Marketing Tools on Small and Medium Size Enterprises (SMEs) Growth in Oyo State.

Dr. Ogunleke Ayodeji Oluwaseun[1] Dr. Kehinde Adefiola Olanipekun[2]

[1,2]University of Ibadan

Abstract

As cities continue to urbanize rapidly, the demand for efficient and reliable vehicle identification systems has become increasingly critical for various applications, such as smart city infrastructure, optimized traffic management, and law enforcement. Automatic Number Plate Recognition (ANPR) systems have emerged as a promising solution to address these needs. However, traditional ANPR systems face significant challenges in achieving high accuracy under diverse environmental conditions, including varied license plate formats, changing camera angles, and inconsistent or poor lighting. These limitations emphasize the necessity for more adaptable and robust ANPR systems capable of operating effectively in real-world scenarios.

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Effect of Digital Marketing Tools on Small and Medium Size Enterprises (SMEs) Growth in Oyo State.

Dr. Ogunleke Ayodeji Oluwaseun[1] Dr. Kehinde Adefiola Olanipekun[2]

[1,2]University of Ibadan

Abstract

This study examines the role of digital marketing tools in driving the growth of small and medium enterprises (SMEs) in Oyo State, Nigeria. Data were collected from 300 SMEs using a well-structured questionnaire. The study adopts multiple regression to analyze the data. Findings indicate that social media platforms like Facebook and Instagram are the most widely used tools, enhancing brand awareness and fostering customer loyalty. These tools enable SMEs to reach broader audiences at relatively low costs. However, less-utilized tools such as Search Engine Optimization (SEO) and email marketing also offer significant potential for improving search engine rankings and personalized customer engagement. Also, the results show that businesses facing fewer infrastructural challenges demonstrated significantly higher performance metrics. This implies that there is need to address some barriers to unlock the full potential of digital marketing such as inadequate internet infrastructure, high operational costs, unstable electricity, and limited technical expertise.

AI Meets Libraries: The Transformative Impact of Virtual Assistants in Reference Services

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Abstract

Artificial Intelligence (AI) is revolutionizing the landscape of library services, with virtual assistants and chatbots at the forefront of this transformation. This study explores the integration of AI-powered tools in reference services, highlighting their potential to enhance user experiences, streamline operations, and foster digital literacy. Virtual assistants, including chatbots like Kingbot and Bizzy, and advanced research tools such as ELICIT.COM and SCITE, are reshaping how libraries interact with patrons by providing 24/7 support, personalized resource recommendations, and efficient information retrieval. The study delves into the benefits of these technologies, such as scalability, quick response times, and consistent service delivery, while addressing challenges like data privacy concerns, language barriers, and maintenance demands. Drawing on insights from existing implementations and scholarly research, this paper underscores the critical role of AI in modernizing library reference services. By bridging the gap between traditional library functions and innovative digital solutions, virtual assistants offer a path for libraries to remain relevant and accessible in an increasingly digital age.

Leveraging Artificial Intelligence for Enhanced Archives and Records Management in the Digital Age

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Abstract

The integration of Artificial Intelligence (AI) into archives and records management (ARM) has emerged as a pivotal trend in addressing the growing complexities of managing digital records and institutional memory in the 21st century. This study investigates how AI technologies particularly machine learning, natural language processing, and automated classification enhance the efficiency and effectiveness of archival processes, including appraisal, arrangement, retrieval, and long-term preservation. The study aims to evaluate the impact of AI-driven innovations on ARM practices, focusing on their ability to optimize resource allocation, improve accessibility, and address sustainability challenges. Specifically, the research seeks to identify best practices for ethical AI implementation in ARM while examining potential risks, such as data privacy breaches, algorithmic bias, and issues of transparency. The study is underpinned by the objective of proposing a sustainable framework for integrating AI into ARM that aligns with professional standards and societal values. A mixed-methods approach was adopted, combining qualitative interviews with archivists, records managers, and AI developers, and quantitative analysis of case studies drawn from institutional and organizational archives globally. Data were collected through semi-structured interviews, surveys, and document analysis, ensuring comprehensive insights into the real-world application of AI in ARM. Findings reveal that AI can significantly improve operational efficiency, particularly in the automated categorization and retrieval of records. However, the research also highlights challenges in implementation, including the high cost of technology, lack of technical expertise among archivists, and ethical concerns related to privacy and transparency. This study contributes to the discourse on AI adoption in ARM by offering a practical framework that integrates ethical guidelines, interdisciplinary collaboration, and continuous professional development for information professionals. It concludes with recommendations for policymakers, institutions, and researchers, emphasizing the need for inclusive, transparent, and accountable AI systems that support sustainable archival practices and ensure equitable access to preserved knowledge for diverse populations.

Artificial Intellegence (AI) and Sustainable Education

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Abstract

The influx of AI in educational practices has revolutionalise the educational system. This has really led to very controversial debates as to whether AI has emerged to contribute to teaching and learning outcomes or otherwise. Therefore, this study focuses on unravelling the link between Artificial Intelligence and Sustainable Education with the view to harnessing the positive aspects AI to promoting educational efficiency. Even though AI contributes to a lot to the educational landscape such as the provision of data-driven insights and other benefits. However, its use is not devoid of challenges such as data privacy, digital divide etc. Using the mixed method approach through the sequential explanatory, data will be collected from 372 respondents (students and lecturers) across various demographics with the use of questionnaires and interview guide. Data will be analysed using descriptive and inferential statistics for the quantitative aspect of the data while thematic analysis will be used for the qualitative data. It is anticipated that the extent of usage of AI would be established coupled with its strengths and weaknesses. Ultimately, AI serves as a catalyst for transforming education into a sustainable and adaptive system capable of addressing the dynamic needs of the 21st century while contributing to the United Nations' Sustainable Development Goals (SDGs). This paper underscores the importance of harnessing AI responsibly to build resilient and future-ready educational ecosystems.

Towards Embracing Artificial Intelligence for Sustainable Library Services Delivery In Developing Countries: A Holistic Look At Problems, Prospects And Way Forward

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Abstract

The paper advocates the need to embrace artificial intelligence (AI) for sustainable library service delivery in developing countries with deep emphasis on the problems, prospects and way forward. The paper gave an overview of artificial intelligence, its evolution and general applicability to human endeavors; the current state of libraries and information centres technologically in developing countries were highlighted; rationale for integrating and embracing artificial intelligence in libraries with practical examples of libraries that have deployed AI and their impacts on service delivery were discussed extensively; the nature and specific areas of library services mostly affected by AI tools were explained; the opportunities available to libraries in developing countries to fully optimized and deploy AI tools to library service delivery and the challenges limiting full deployment of AI technologies in libraries, especially developing countries were identified; the strategies for full deployment of artificial intelligence tools and related technologies to library service delivery in developing countries were highlighted.

Keywords

- Artificial intelligence
- developing countries
- library service delivery
- sustainable library services

African libraries and open knowledge practices in artificial intelligence era: a call for understanding of the problems, prospects and best practices

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Abstract

The paper advocates the need for African libraries to promote best practices in open knowledge initiatives with reference to the artificial intelligence era. Knowledge is acknowledged as the key component of the forces driving modern development in the present knowledge economy. The paper demystified the theory of open knowledge within the context of present knowledge economy. It examined the relevance of open knowledge in present age; it also highlights the present situation of open knowledge in Africa continent and underscores the role of library and information professionals in promoting open knowledge; the place of the library as an institution in the management of open knowledge was well explained. The challenges encountered by library and information professionals in advancing open knowledge identified include but not limited to dearth of information professionals knowledgeable in open knowledge practices, low level awareness of the applicability of AI to knowledge management, low level of technological development in Africa, ethical issues consideration, absence of viable consortium within the library sector, low level of awareness of the digital infrastructure to exploit for open knowledge initiatives in AI era, low level of funding for the installation of necessary digital infrastructures that propels open knowledge in AI era, and lack sustainable partnership drives between librarians and professionals in other fields. The paper recommends collaborative approach that is multi-disciplinary in ensuring sustainability of open knowledge initiatives, retraining and reskilling of library and information professionals in publishing-related skills and competencies, provision of adequate funding, developing and formulating viable open knowledge policy framework and promoting capacity building programmes. The paper conclude that library and information science practitioners should show readiness and willingness to embrace the concept of open knowledge and carry out a strong campaign programmes that will promote open knowledge initiative not just in Africa but at the global space. Therefore practitioners within the library parlance must wake up to the clarion call irrespective of the type of library they work. This should be seen as our project and therefore requires all hands on deck.

Keywords

- Africa, Knowledge
- Knowledge Economy
- Open Knowledge
- Information Professionals
- Library Practitioners

Environmental Sustainability in Gold Exploration: A Geophysical Approach Over Minna And Its Environs, Northcentral, Nigeria

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Abstract

This study demonstrates the application of geophysical methods in assessing the gold potential of Minna and its environs, Northcentral, Nigeria. The integration of topographic, airborne magnetic and radiometric datasets has provided a comprehensive insight into the surface and subsurface structural features, which serves as pathfinders for gold mineralization. Several prospective gold loci were characterized by significant surficial, subsurface, and hydrothermal alteration resulting from topographic, magnetic and radiometric anomalies. The delineated mineralized structures are structurally controlled and aligned majorly in the NE-SW and E-W directions with some geomorphological features. These structural alignments were used to produce a composite structural map, which predicts newly mineralized zones and also shows close alignments with some known locations of gold occurrence. Subsequently, the study further reveals a modal depth extent to concealed mineralized structures with value < 31.9 m. Therefore, the integration of topographic, airborne magnetic and radiometric datasets has provided substantial clues in sustainable development practices of gold exploration and aid in mitigating the environmental degradation caused by fortuitous artisanal mining activities.

Mathematical Modeling of Covid-19 And Diabetes Comorbidity: Advancing Sustainable Development Goals

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Abstract

The COVID-19 pandemic has posed unprecedented challenges to global health systems, particularly for individuals with comorbid conditions such as diabetes. This research leverages mathematical modeling to analyze the interplay between COVID-19 and diabetes, aiming to inform public health strategies and contribute to the Sustainable Development Goals (SDGs). We developed a comprehensive model incorporating epidemiological data, disease dynamics, and patient-specific factors to simulate the spread and impact of COVID-19 among diabetic populations. Our model enables real-time analysis and scenario planning, providing critical insights for targeted interventions to protect vulnerable groups and optimize healthcare resource allocation. Our findings highlight the critical need for targeted interventions to protect vulnerable groups and optimize healthcare resource allocation. This study underscores the potential of mathematical modeling to address complex health challenges, ultimately supporting SDG 3 (Good Health and Well-being) and SDG 9 (Industry, Innovation, and Infrastructure). The implications of this research extend beyond the current pandemic, offering a robust framework for managing future public health crises and advancing sustainable development.

Trophic Status and Phytoplankton Assessment of Tungan Kawo Reservoir, Kontagora, Niger State: Implications For Sustainable Development Goals

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Abstract

This study assesses the trophic status and phytoplankton diversity of Tungan Kawo Reservoir in Kontagora, Niger State, Nigeria, to inform sustainable development strategies. By analyzing water quality parameters and phytoplankton assemblages, we aim to evaluate the reservoir's ecological health and its alignment with Sustainable Development Goals (SDGs). Our findings highlight the reservoir's trophic status and the role of phytoplankton as bioindicators, providing insights for effective water resource management. This research supports SDG 6 (Clean Water and Sanitation) and SDG 14 (Life Below Water), emphasizing the importance of preserving aquatic ecosystems for sustainable development

Leveraging Concentration Maps and Algebraic Structures for Enhanced Environmental Monitoring and Climate Action

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Abstract

This study assesses the trophic status and phytoplankton diversity of Tungan Kawo Reservoir in Kontagora, Niger State, Nigeria, to inform sustainable development strategies. By analyzing water quality parameters and phytoplankton assemblages, we aim to evaluate the reservoir's ecological health and its alignment with Sustainable Development Goals (SDGs). Our findings highlight the reservoir's trophic status and the role of phytoplankton as bioindicators, providing insights for effective water resource management. This research supports SDG 6 (Clean Water and Sanitation) and SDG 14 (Life Below Water), emphasizing the importance of preserving aquatic ecosystems for sustainable development

Leveraging Artificial Intelligence for Enhanced Archives and Records Management in the Digital Age: Balancing Innovation with Ethical Practices.

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Abstract

The integration of Artificial Intelligence (AI) into Archives and Records Management (ARM) has emerged as a pivotal trend in addressing the growing complexities of managing digital records and institutional memory in the 21st century. This study investigates how AI technologies particularly machine learning, natural language processing, and automated classification enhance the efficiency and effectiveness of archival processes, including appraisal, arrangement, retrieval, and long-term preservation. The study aims to evaluate the impact of AI-driven innovations on ARM practices, focusing on their ability to optimize resource allocation, improve accessibility, and address sustainability challenges. Specifically, the research seeks to identify best practices for ethical AI implementation in ARM while examining potential risks, such as data privacy breaches, algorithmic bias, and issues of transparency. The study is underpinned by the objective of proposing a sustainable framework for integrating AI into ARM that aligns with professional standards and societal values. A mixed-methods approach was adopted, combining qualitative interviews with archivists, records managers, and AI developers, and quantitative analysis of case studies drawn from institutional and organizational archives globally. Data were collected through semi-structured interviews, surveys, and document analysis, ensuring comprehensive insights into the real-world application of AI in ARM. Findings reveal that AI can significantly improve operational efficiency, particularly in the automated categorization and retrieval of records. However, the research also highlights challenges in implementation, including the high cost of technology, lack of technical expertise among archivists, and ethical concerns related to privacy and transparency. This study contributes to the discourse on AI adoption in ARM by offering a practical framework that integrates ethical guidelines, interdisciplinary collaboration, and continuous professional development for information professionals. It concludes with recommendations for policymakers, institutions, and researchers, emphasizing the need for inclusive, transparent, and accountable AI systems that support sustainable archival practices and ensure equitable access to preserved knowledge for diverse populations.

Adoption of Artificial Intelligence (AI) In Library Services: Opportunities and Challenges

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Abstract

The integration of Artificial Intelligence (AI) into library services presents a transformative opportunity to enhance information management, user interaction, and operational efficiency. This study critically examines the adoption of AI technologies in libraries through an extensive review of relevant literature. It highlights several potential benefits of AI, such as improved access to information through AI-powered search engines that process complex queries for precise results. Additionally, AI can offer personalised user experiences by recommending books, articles and resources based on individual preferences and past interactions. It can also automate the time-consuming process of cataloguing and classifying materials, reducing the workload on library staff. Furthermore, AI-powered data analytics can provide valuable insights into user behaviour, resource utilisation, and emerging trends, aiding in strategic planning and decision-making. However, the study also highlights significant challenges associated with AI adoption in libraries, including ethical concerns, data privacy issues involving the protection of personal information and the need for upskilling library staff to effectively manage and use AI technologies. By integrating insights from various scholarly sources, the study provides a comprehensive understanding of how AI can revolutionise library services, while also emphasising the importance of navigating the identified challenges to fully realise the full potentials of AI adoption into library services.

Keywords

- Adoption of AI
- library services
- opportunities
- challenges

AI Governance: Balancing Innovation and Regulation to Combat Corruption in Policy Development

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Abstract

The integration of Artificial Intelligence (AI) into library services presents a transformative opportunity to enhance information management, user interaction, and operational efficiency. This study critically examines the adoption of AI technologies in libraries through an extensive review of relevant literature. It highlights several potential benefits of AI, such as improved access to information through AI-powered search engines that process complex queries for precise results. Additionally, AI can offer personalised user experiences by recommending books, articles and resources based on individual preferences and past interactions. It can also automate the time-consuming process of cataloguing and classifying materials, reducing the workload on library staff. Furthermore, AI-powered data analytics can provide valuable insights into user behaviour, resource utilisation, and emerging trends, aiding in strategic planning and decision-making. However, the study also highlights significant challenges associated with AI adoption in libraries, including ethical concerns, data privacy issues involving the protection of personal information and the need for upskilling library staff to effectively manage and use AI technologies. By integrating insights from various scholarly sources, the study provides a comprehensive understanding of how AI can revolutionise library services, while also emphasising the importance of navigating the identified challenges to fully realise the full potentials of AI adoption into library services.

Keywords

- AI Governance
- Corruption
- Policy Development
- Ethical Guidelines,

Artificial Intelligence (AI) as Antidotes for Effective Teaching and Learning in Public Universities in Nigeria

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Abstract

The study examined Artificial Intelligence (AI) as antidotes for effective teaching and learning in public universities in Nigeria. It was guided by three research questions. A descriptive survey research design was used. The population comprised 29,820 of both lecturers and undergraduates of Tai Solarin University of Education (TASUED), Ijagun, Ogun State, Nigeria for the academic session 2023/2024. Using purposive and stratified sampling techniques, a total of 150 lecturers and undergraduates were selected as sample size. Two researcher-designed instruments tagged 'Artificial Intelligence (AI) and Effective Teaching Questionnaire (ALETQ) and Artificial Intelligence (AI) and Effective Learning Questionnaire (ALELQ) were used for data collection with 0.81 and 0.88 as reliability coefficients. Descriptive statistics of mean, standard deviation and bar-chart were used for analyzing research questions. The findings revealed that AI enhanced lecturer efficiency, access to vast resources, enhance immediate feedback, enhance predictive analytics, enhance data privacy and security, promote quality control, balancing automation with human interaction among others. It was also indicated that AI has the capability to tailor educational content to the individual needs of each student, helps target instruction based on students' strengths and weaknesses, gauges a students' learning style and pre-existing knowledge to deliver customized support and instruction, tracks class attendance, among others. University management should upgrade and provide necessary infrastructures that can make utilization of AI for instruction delivery possible. Lecturers or teachers should key into the use of AI for instructional delivery. The government and other relevant agencies should make available relevant facilities for the usage of AI as it relates to education.

Harnessing Artificial Intelligence for Personalized Spiritual Counseling: Implications for Health and Help-Seeking Behaviour Among Women in Academia in Nigeria

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Abstract

In recent years, the integration of Artificial Intelligence (AI) into various sectors has garnered significant attention, particularly in the realm of mental health and spirituality. This research explores the implications of leveraging AI for personalized spiritual counseling among women in selected higher education instituions in Ogun State, Nigeria. Women have been identified as a demographic facing unique stressors including high academic demands, gender biases, and the pressures of maintaining work-life balance. The study seeks to investigate how AI-driven spiritual counseling platforms can empower this group to navigate their spiritual and mental health needs, ultimately influencing their help-seeking behaviors. Informed by a mixed-methods approach, this research will employ both quantitative surveys and qualitative interviews with women in academia across public universities in Ogun State, Nigerian. The initial phase involves administering an online survey to gather data on the current spiritual practices, mental health challenges, and help-seeking behaviors of participants. The second phase will involve in-depth interviews to provide a deeper understanding of personal experiences and perceptions related to AI-enabled counseling platforms. The anticipated outcomes of the study include identifying key functionalities that women in academia desire from AI-driven counseling services. These may encompass personalized spiritual resources, tailored mental health interventions, and responsive feedback. Furthermore, the study aims to understand the barriers women face in seeking help, including stigmas associated with mental health issues and the accessibility of traditional counseling services. By examining how AI can bridge these gaps, the research will highlight the potential of technology to foster a supportive environment for mental wellness and spiritual growth. Additionally, the study considers the ethical implications of employing AI in a spiritual context, addressing concerns related to privacy, data security, and the emotional accuracy of AI interactions. Through this exploration, the research will propose guidelines for the ethical use of AI in spiritual counseling, ensuring that technology enhances rather than undermines the spiritual experience. Ultimately, this research aspires to contribute to the discourse on the intersection of technology, spirituality, and mental health, particularly focusing on the specific challenges faced by women in academia. It aims to provide actionable insights for the development of AI-based tools that are both user-centered and culturally sensitive, thus offering a pathway to improved help-seeking behavior and overall mental health among this demographic. By harnessing AI for personalized spiritual counseling, the study seeks to empower women in academia to prioritize their spiritual and mental well-being, thereby promoting resilience and fostering a healthier academic environment. In conclusion, this research not only seeks to explore an innovative approach to spiritual counseling but also aims to inform policymakers and stakeholders in academia about the significant role that AI can play in supporting the mental health and spiritual needs of women, ultimately contributing to a more holistic understanding of health-seeking behaviors in contemporary society.

Exploring Librarians' Perceptions of AI Applications in Archives and Records Management at State Polytechnics in the South-South Region of Nigeria

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Abstract

This study investigates librarians' perceptions of AI applications in archives and records management within state polytechnics in South-South Nigeria. A mixed-methods approach will gather data from librarians, archives technicians and records managers across the state polytechnics. The study will explore awareness, attitudes, and readiness towards adoption of AI, perceived benefits, and challenges. Data will be analysed statistically and presented using tables and figures. Findings will inform strategies for promoting AI adoption, capacity building, and infrastructure development in state polytechnic libraries, enhancing librarians' perspectives and attitudes regarding AI adoption in Nigeria. Global information management techniques have changed as a result of the incorporation of artificial intelligence (AI) into archives and records management. Librarians play a critical role in the adoption and implementation of AI in archives and records management. Their perceptions and attitudes towards AI can significantly influence the success or failure of AI adoption initiatives. However, existing studies on AI adoption in libraries have focused primarily on university libraries or libraries in developed countries, neglecting the unique challenges and opportunities in Nigerian state polytechnics. The research will focus on the levels of awareness and attitudes among librarians towards AI applications in archives and records management, factors influence librarians' readiness to adopt AI-powered systems in archives and records management, perceived benefits and challenges of AI adoption in archives and records management among librarians. This study will explores the views of librarians regarding the use of AI in archives and records management within state polytechnics located in the South-South region of Nigeria. A mixed methods research approach, which includes questionnaire techniques and semi-structured interviews, will be utilized to gather data from librarians, archives technicians and records managers across the eleven (11) state polytechnic in the south-south region in Nigeria. Data will be analysed statistically and presented using tables and figures. The findings of the research will enhance the perception of librarians' perspectives and attitudes regarding AI adoption in archives and records management in the context of Nigeria. The recommendations from this research will guide strategies aimed at fostering AI adoption, enhancing skills, and developing infrastructure in state polytechnic libraries.

Knowledge Management for Healthy Ageing: How can sustainable knowledge systems support the Management of Knowledge related to Healthy Ageing.

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Abstract

Old age is a pleasant gift from God and it needs to be respected and cared about. The problems facing the elderly people in Ebonyi State are numerous. Chief among them is the difficulty in getting their entitlements for retirees. Maintaining quality of life with increasing age requires effort in a person's younger years. Sustainable knowledge systems can facilitate the sharing, and utilization of knowledge in a way that is environmentally, socially and economically sustainable. Stakeholders can work together to support the health and wellbeing of the older persons and create age friendly environment that promote healthy ageing. "Old age is a wonderful gift from God and anybody that lives into old age needs to be respected and cared for. The problems facing the elderly people in Ebonyi State, Nigeria are numerous, but the chief amongst them is difficulty in getting their entitlements (gratuity and pensions) for the retirees; secondly, involved income and economic welfare; social relationship among others. The study found out that women live longer than men, married people also live longer than the singles for obvious reasons. It's our collective responsibility to look after the elderly: this is because they need mostly our attention, care and welfare too. There should be a collaborative effort for the family, school, community and government to assist them achieve a healthy ageing. Knowledge management for healthy ageing is the best process of creating, sharing, using and managing knowledge to support the health and wellbeing of the older persons. This involves the identification, acquisition, organization, storage sharing and utilization of knowledge related to healthy ageing. Hence, sustainable knowledge systems are critical for supporting the management of knowledge related to healthy ageing. These systems support the creation, sharing and utilization of knowledge in a a way that is environmentally, socially, and economically sustainable. Sustainable knowledge systems can support the management of knowledge related to healthy ageing in the following ways: access information, knowledge creation and sharing, collaborations and partnerships, capacity building, innovation and entrepreneurship. Maintaining quality of life with increasing age requires effort in a person's younger years. Overhauling of government policy on retirement and pension matters, social security for the elderly people, reduced health care costs, and maintenance of close relationships with the elderly people are recommended for knowledge management for healthy ageing.

Investigating the Use and Adaptation of AI-Driven Tools in Teaching and Learning Needs of Economics Students in Selected Colleges of Education in North Central Nigeria.

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Abstract

This study investigates the use and adaptation of AI-driven tools in teaching Economics to students in selected colleges of education in North Central Nigeria. The integration of Artificial Intelligence (AI) in education presents innovative solutions that can address the challenges faced by students, such as limited access to quality resources and traditional teaching methods. Through a mixed-methods approach, the research examines the extent of AI tool usage, identifies barriers to their adaptation, and evaluates their impact on student engagement and academic performance. ANOVA (Analysis of Variance) will be employed to test the hypothesis in order to compare the mean differences in academic performance and engagement between different groups (e.g., students who use AI tools regularly vs. those who don't). Findings reveal that while AI tools have the potential to enhance learning experiences by personalizing content and automating tasks, their adoption is hindered by infrastructural deficits, insufficient teacher training, and cultural resistance. The study emphasizes the need for strategic interventions to facilitate the effective integration of AI technologies in Economics education, ultimately aiming to improve educational outcomes and equip students with essential skills for the modern economy.

Artificial Intelligence (AI) and Information Literacy in Nigerian Libraries: Challenges and Opportunities

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Abstract

AI integration in Nigerian libraries reshapes information literacy, enabling effective information use but facing hurdles like limited funding, infrastructure, and skills. AI aids with personalized recommendations, cataloging, and digital access but raises ethical concerns, including data privacy and algorithmic bias. Overcoming these requires investments in infrastructure, librarian training, and AI collaborations. With strategic adoption, AI can democratize information, foster inclusion, and empower libraries to enhance information literacy, positioning them as pivotal in the digital age. The integration of Artificial Intelligence (AI) into library systems has transformed the backdrop of information literacy, presenting both challenges and opportunities, particularly in Nigerian libraries. Information literacy, the ability to locate, evaluate, and use information effectively, is critical in a digital age dominated by vast and diverse information sources. AI technologies such as machine learning, natural language processing, and intelligent search algorithms have the potential to enhance information literacy by providing users with personalized recommendations, automating cataloging processes, and improving access to digital resources. However, the adoption of AI in Nigerian libraries is fraught with challenges including inadequate infrastructure, limited funding, and insufficient digital literacy skills among library professionals and users. Additionally, ethical concerns such as data privacy, algorithmic bias, and the digital divide exacerbate the disparities in access to AI-driven tools. Despite these challenges, potential opportunities exist for Nigerian libraries to use AI to improve information literacy remains immense. By investing in digital infrastructure, capacity-building programs for librarians and partnerships with AI developers, libraries can overcome barriers to adoption. AI technologies can be hitched to democratize access to information, create inclusive learning opportunities, and empower Nigerian libraries to better serve their diverse communities. Addressing the challenges thoughtfully while capitalizing on the opportunities can position Nigerian libraries as critical drivers of information literacy in the 21st century.

Building Interdisciplinary Solutions for Food Security: An AI-Powered Crop Disease Detection AppOral Presentation

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Abstract

This study presents an AI-powered crop disease detection app for smallholder farmers, leveraging MobileNetV2 and custom CNN models to deliver real-time, accurate diagnostics. Trained on a dataset from the Mount Kenya region, the app achieved 95.5% accuracy and rapid inference speeds, making it suitable for resource-constrained environments. With an intuitive interface and localized recommendations, it empowers farmers to reduce crop losses and improve decision-making. This interdisciplinary solution combines AI innovation, ethical design, and accessibility to address critical agricultural challenges and advance sustainable practices, contributing to global food security. Global food security is under threat due to crop diseases, which result in significant yield losses and disrupt sustainable agricultural practices. Smallholder farmers, who form the backbone of food production in many regions, face challenges in accessing timely and accurate disease diagnostics. Advances in artificial intelligence (AI) offer transformative opportunities, but integrating these technologies into accessible and practical tools remains a critical gap. This study highlights the development of an AI-powered crop disease detection app as an interdisciplinary solution to enhance food security through innovative, ethical, and accessible technology. Despite the potential of AI in agriculture, the lack of tailored, scalable, and user-friendly tools limits its impact on smallholder farmers. This study aims to design and evaluate a mobile application powered by MobileNetV2 architecture to deliver real-time, accurate disease detection. The app seeks to bridge the gap between advanced AI research and practical agricultural applications, fostering interdisciplinary collaboration to address food security challenges. The app integrates lightweight MobileNetV2 architecture for efficient disease detection. A diverse dataset of annotated 95,551 crop images spread across 22 crop types from Mt. Kenya region was used for training and validation. The app was developed with an intuitive interface to ensure usability for non-technical users, incorporating real-time image analysis and localized recommendations. Performance metrics such as accuracy, inference speed, and user satisfaction were evaluated through simulations and field testing in low-resource agricultural environments. The app achieved an accuracy of 96.5% using MobileNetV2 and demonstrated real-time inference speeds under 50ms, making it highly suitable for deployment in resource-constrained environments. Field tests indicated significant potential for early disease detection, with farmers reporting improved decision-making and reduced crop losses. Interdisciplinary collaboration was pivotal in ensuring the app's ethical design, data privacy, and accessibility. The AI-powered crop disease detection app exemplifies the role of interdisciplinary solutions in addressing global food security challenges. By combining innovations in AI with ethical considerations and user-centered design, the app empowers smallholder farmers to adopt sustainable disease management practices. This study highlights the importance of leveraging AI to create practical tools that transcend disciplinary boundaries, ensuring equitable access to technology. Future work will focus on integrating predictive analytics and expanding the app's functionalities to include multimodal inputs and pest management.

Innovative approaches and Technologies to Gaming in Advancing sports management in Ebonyi State, Nigeria.

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Abstract

The sports industry in Ebonyi State, Nigeria is rapidly growing with demands for innovative approaches to sports management. Gaming technologies have the potential to revolutionize sports management in Ebonyi State. This study aims to explore innovative approaches and Technologies to gaming in Advancing sports management in Ebonyi State. A mixed methods approach was employed, combining a literature review, survey research, Case studies of sports organizations. The study found out that gaming technologies, such as eSports, virtual reality, and fantasy sports can enhance sports management in Ebonyi State. The study recommended for eSports infrastructure, integration of virtual reality and policy development. The sports industry in Ebonyi State, Nigeria is rapidly growing with demands for innovative approaches to sports management. Gaming technologies have the potential to revolutionize sports management in Nigeria. This study aims to explore innovative approaches and Technologies to gaming in Advancing sports management in Ebonyi State, Nigeria. A mixed methods approach was employed, combining a literature review, survey research and Case studies of sports organizations in Nigeria. The study found out that gaming technologies, such as eSports, virtual reality, and fantasy sports can enhance sports management in Ebonyi State. Sustainable knowledge systems are critical for supporting the management of knowledge related to sports management. These technologies can improve fan engagement, increase revenue and enhance athletes performance. The study highlights the potential of gaming technologies to advance eSports management in Ebonyi State, Nigeria. Sports organizations, policymakers, and other stakeholders must work together to develop and implement innovative approaches to gaming in sports management. The study recommended for development of eSports infrastructure, integration of virtual reality, fantasy sports development, capacity building and policy development. Thanks for the opportunity to be part of this all important conference.

Exploring Librarians Perceptions of the Role of AI-driven Innovations in Enhancing Information Access and Retrieval in Academic Libraries

Oshiomu Augustine Odido

Federal Polytechnic Library N'yak, Shendam LGA, Plateau State, Nigeria

Abstract

The integration of Artificial Intelligence (AI) in academic libraries is transforming the way libraries operate and serve their communities. AI-driven innovations enhance information access and retrieval, improve user experiences, and increase efficiency. Librarians' perceptions of AI are crucial for successful integration. Studies have shown that librarians have positive perceptions of AI, recognizing its potential benefits, but also expressing concerns about job displacement and privacy issues. The aim of the paper is to explore Librarians Perceptions' of the Role of AI-driven Innovations in Enhancing Information Access and Retrieval in Academic Libraries. The paper is an opinion paper based on literature analysis on the topic. The concept of AI-driven innovations, AI-driven innovations in academic libraries, impact of AI-driven innovations on information access and retrieval, librarians' perceptions of AI-driven innovations were discussed. The paper identified AI applications in academic libraries, including chatbots, text mining, predictive analytics, image recognition, natural language processing, citation analysis, digital assistants, fraud detection, etc. The paper observed that Artificial Intelligence can complement human creativity. Integrating AI in academic libraries can greatly improve accessibility, efficiency and overall user experiences. This study has practical implications for academic libraries, which can inform, and shape librarians' perceptions of Artificial Intelligence's role in enhancing information access and retrieval. To achieve success in exploring librarians' perceptions of AI-driven innovations, and enhance information access and retrieval in academic libraries, the paper concluded that librarians should stay informed about the latest AI trends and innovations in academic libraries; and embrace lifelong learning to develop skills and knowledge to integrate AI-driven innovations into library services. Librarians should also foster a positive attitude, recognize the potential benefits of AI-driven innovations, and be open to change. Others include: librarians should also address concerns and misconceptions, collaborate and share experiences, assess and evaluate AI-driven innovations, develop AI-related policies and guidelines, and provide training and support to library staff.

Data Science-Driven AI for Enhancing Public Health Communication and Personalized Therapeutics in Local Communities

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Abstract

Public health challenges in underserved communities require innovative, data-driven solutions to improve diagnostics, communication, and therapeutic interventions. This study explores the integration of data science and Artificial Intelligence (AI) to enhance public health outcomes through targeted communication strategies and personalized therapies. Leveraging AI models trained on local demographic, epidemiological, and behavioral data, we developed a predictive system to address common health concerns in rural areas. The system utilizes Natural Language Processing (NLP) to deliver culturally tailored health education content and real-time symptom analysis to empower individuals with accurate, actionable information. In parallel, the integration of bibliotherapy and cinematotherapy was employed to address mental health challenges, offering curated therapeutic content selected through advanced recommender systems. Preliminary results from a pilot deployment in a local Nigerian community indicate a 35% improvement in health literacy and a 20% reduction in preventable clinic visits due to enhanced early intervention. The proposed approach demonstrates the potential of AI and data science to bridge healthcare access gaps and promote well-being, particularly in low-resource settings. This work underscores the importance of interdisciplinary collaboration between computer science, healthcare, and community stakeholders to ensure AI solutions are ethical, effective, and inclusive. We conclude by highlighting challenges such as data privacy and algorithmic bias and proposing strategies to address them, thereby fostering sustainable AI-driven public health innovations.

Keywords

- Artificial Intelligence
- Data Science
- Public Health
- Bibliotherapy
- Cinematherapy
- Local Communities
- Ethical AI

Perspective on examination malpractices and the role of Artificial intelligence in Nigerian education system

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Abstract

The paper analyses the prevalence and various forms of examination malpractices in the Nigerian educational system as it affects the attainment of the objectives of her National Policy on Education. The causes and justifications for students cheating in examinations and the consequences are discussed. The implications of the menace of examination malpractices on the future of Nigerian educational system and society reveals a status of social, moral and educational epidemic conclusions and recommendations are made on the need to employ various AI strategies such as proctoring software and adaptive testing among others to curb the various forms of examination malpractices in the Nigerian educational system.

Keywords

- Examination malpractice
- Artificial intelligence (AI)
- Cheating
- Education.

AI-Enhanced Public Health Strategies for Global Well-Being: Lessons from Nigeria

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Abstract

In Nigeria, public health challenges such as infectious diseases, maternal mortality, and non-communicable diseases underscore the need for innovative solutions. This paper explores the role of Artificial Intelligence (AI) in advancing public health strategies to improve population well-being and align with Sustainable Development Goal 3 (Good Health and Well-being). AI-driven innovations, such as predictive modeling for disease outbreaks, automated diagnostic tools, and mobile health platforms, have the potential to enhance healthcare delivery in Nigeria's underserved communities. The paper discusses applications like AI-powered tools for tracking malaria and Lassa fever outbreaks and chatbot-assisted telemedicine services for rural populations. Challenges, including limited digital infrastructure, data privacy concerns, and algorithmic biases, are critically analyzed. Drawing from successful case studies like AI-based maternal health monitoring in Nigeria, this research proposes a roadmap for scaling AI solutions in the public health sector. The findings emphasize the importance of collaboration among government agencies, tech innovators, and health organizations to build sustainable AI-driven healthcare systems tailored to Nigeria's unique needs.

Tree-based predictive models towards solving the university academic progress crisis.

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Abstract

The fourth goal of the 2030 Agenda for Sustainable Development focuses on Quality Education whose main aim is to ensure inclusive and unbiased quality education and endorse lifelong learning opportunities. There exists a university academic progression crisis that has resulted in high rates of discontinuation on academic grounds, repeat year cases, change of programme after registration, interuniversity transfers, deferments so as to change programme, dropped out cases, suspension over exam irregularities and strikes. Studies have narrowed down the cause of the crisis to be wrong programme of study in the university. Evaluated predictive models shows the dominance of tree-based models for this classification problem. The general objective of this study was to compare the performance of nine tree-based models for predicting the most suitable programme of study for a university entrant in Kenya with ikigai concepts. The specific objectives were to establish which of the nine tree-based predictive models (Decision Tree, Random Forest, Gradient Boosting, XGBoost, LightGBM, CatBoost, Extra Trees, HistGradientBoosting, and AdaBoost) was the most predictive as a university programme recommender and to evaluate the performance of the nine models to establish the most predictive. Purposive sampling was done to select 5 of the 40 public universities for data collection. Questionnaires was the preferred research instrument for the data collection due to its scability, anonymity and accuracy. At 95% confidence level, standard deviation of 0.5, and a confidence interval of ± 5%, the sample size was determined to be 306 from the targeted population of 1500 students. The responses received from the five selected universities was prepared in a .csv file with 308 rows of data with 36 features. Numpy, Pandas, Matplotlib, Sklearn, Seaborn, Scipy, Plotly python analytics libraries were deployed using Jupyter Notebook for Anaconda. The cleaned and processed dataset features had categorical variables thus one-hot-encoding technique was employed. Data was split for training and testing with the random_state set to 42 with ratio of 70:30. Gini index criteria was implemented to measure the randomness or the impurity or entropy in the values of the dataset. Confusion matrix, accuracy, precision, recall and F1 Scores were implemented to evaluate the performance of the nine models. The ikigai calculator indicated that 12.8% of the respondents were studying a programme that was not in line with their dream job aspiration, whilst 18.7% of the respondents felt the need to drop out from the programme they were pursuing due to lack of passion to pursue it further. AdaBoost model demonstrated the highest predictive accuracy of the nine achieving 92.24% accuracy on the training set and 80.76% on the test set indicating its robustness in providing consistent recommendations. These results highlight AdaBoost was the most effective model for accurately predicting suitable academic programmes for university applicants. The results can act as guide for development of an education policy to be adopted by KUCCPS during university/college application process.

Sustainable Practices for Green Libraries Powered by AI: A Case Study of IBB University, Lapai, Niger State, Nigeria

Jamilu Yahaya Maipan-uku

Ibrahim Badamasi Babangida University, Lapai, Niger State, Nigeria

Abstract

Libraries are critical institutions for knowledge dissemination and academic advancement, yet the increasing demand for environmentally sustainable practices has necessitated a shift towards innovative, resource-efficient solutions. This study examines the integration of Artificial Intelligence (AI) into library operations at IBB University, Lapai, as a model for promoting green practices in Nigerian higher education institutions. It explores the potential of AI to enhance energy efficiency, reduce resource consumption, and transform user engagement in library services while aligning with global sustainability goals. The research focuses on three key areas: transitioning from physical to AI-managed digital archives to reduce paper usage, deploying AI-driven energy management systems for optimizing electricity consumption, and implementing user-centered AI tools such as chatbots and recommendation systems to streamline library operations. The study also evaluates challenges such as funding limitations, skill gaps among library staff, and resistance to digitalization, proposing practical strategies for addressing these barriers. Using a mixed-methods approach, including case study analysis of current library practices, stakeholder engagement through interviews and surveys, and feasibility assessments. The research aims to provide actionable recommendations for sustainable library practices. By positioning IBB University as a leader in green library initiatives., the study shall offer a scalable framework for integrating AI into academic libraries across Nigeria, demonstrating the potential for libraries to simultaneously advance knowledge accessibility and environmental sustainability.

Artificial Intelligence in Vocational Education: An Empirical Investigation of Challenges, Applications, Sustainability and Impact in Nigeria

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Abstract

This research examines the issues, use and effects of Artificial Intelligence (AI) on technical education in Nigeria through use of mixed research method. The sample respondents include 50 qualitative participants and 350 quantitative respondents including lecturers, students, and administrators of vocational colleges. Specifically, the three problems investigated were the problems of AI integration, AI integration and its impact, and AI integration and its sustainability. The study hypotheses were quantitatively tested: AI has a positive effect on skills acquisition ($p < 0.01$, $r = 0.78$); Factors such as lack of funding and inadequate human capital act as a barrier to the plausible adoption of AI in Nigeria ($p < 0.05$, $\chi^2 = 13.42$); and Total AI's effects are subject to its sustainability measures such as revisions in policies ($p < 0.01$, $\beta = 0.65$). Findings supported rural areas and households adopted AI which improved skills delivery by 78%, infrastructure barriers were a key constraint – 67%. Apparently, the AI uptake was concaved by fear of change, poor retraining, and poor retraining opportunities for teaching and learning. Notably, 72% felt that AI will be sustainable if sufficient policies and funding support are in place. The research observes that AI has transformative possibilities for vocational education by bridging skill gaps, improving pedagogical productivity, and advancing learning as an outcome. However, infrastructural gaps, insufficient skills, and lack of willingness to embrace change also pose great threats. It recommends that the funding for infrastructure development, training of stakeholders and AI incorporation into the country's vocational education programs should be prioritized. These measures will guarantee effective and long-lasting incorporation of AI, therefore, deepening vocational education and workforce development in Nigeria.

Promoting Ethical Artificial Intelligence Practices and Responsible Innovation

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Abstract

The rapid evolution of artificial intelligence (AI) presents remarkable opportunities for innovation and societal progress. However, it comes with great ethical challenges that demand immediate attention. This paper, Promoting Ethical Artificial Intelligence Practices and Responsible Innovation, focuses on privacy, bias, and accountability concerns to ensure that AI development aligns with societal values and supports sustainable development goals. The discussion started with the exploration of privacy risks in AI systems, ranging from data misuse to surveillance, followed by an analysis of how algorithmic bias exacerbates social inequalities. The study also examines accountability gaps in AI decision-making, especially in high-stakes areas such as healthcare and criminal justice. The paper, through case studies and interdisciplinary insights, highlights the consequences of overlooking these issues and stresses the urgent need for proactive interventions. Furthermore, we suggested a responsible AI framework rooted in core ethical principles—transparency, inclusivity, and fairness. This includes practical tools like Explainable AI (XAI) for better interpretability, strong regulatory guidelines to ensure accountability, and participatory approaches to involve many stakeholders in AI development. The paper concludes by stating the importance of incorporating ethical considerations into the design and deployment of AI technologies. By aligning innovation with societal values and sustainable development goals, we can also harness the transformative power

Keywords

- Ethical Artificial Intelligence
- Responsible Innovation
- Privacy
- Algorithmic Bias
- Sustainable Development Goals

AI Application in Archives and Records Management: A Case Study of the Public Service Records Department uganda.

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Abstract

The rapid growth of data within public sector organizations has underscored the inefficiencies of traditional archives and records management systems. The Public Service Records Department (PSRD) faces significant challenges, including the overwhelming volume of records, manual processing, slow retrieval times, and inaccuracies in classification. This study aims to explore the potential of Artificial Intelligence (AI) in transforming records management practices within the PSRD. The key objectives are to analyze current records management challenges; investigate AI technologies like machine learning, natural language processing (NLP) and optical character recognition (OCR); propose an AI-driven system to automate classification enhance retrieval and improve overall efficiency. The research employs a mixed-methods approach, including case study analysis, interviews, surveys and AI modeling of historical records. The expected outcomes include enhanced operational efficiency, cost savings, improved accuracy in record management and better decision-making capabilities through data-driven insights. This study highlights how AI can modernize public sector archives and records management offering a scalable solution to address current inefficiencies and meet future demands.

Keywords

- Artificial Intelligence
- Archives and Records Management
- Document Automation
- Data Analytics
- Records Digitization.

Confluence of Creative Art and Artificial Intelligence: A Paradigm Shift in Technological Advancement and Sustainable Development in Ebonyi State.

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Abstract

Every society experiences changes over time following the circumstantial occurrences that may begin to influence human curiosity. The confluence of creative art and artificial intelligence has the potential to revolutionize technological advancement and sustainable development in Ebonyi state, Nigeria. This paper explores the meeting point of the two disciplines and its implications for the economic growth, social development and perhaps environmental sustainability in the region. It is timely for this study as this research also argued the fusion of creative art and artificial Intelligence to seek innovative solutions in cultural preservations, sustainable economy and empowerments, and environmental conservations among all. This research therefore adopts both qualitative and quantitative data to examine the current state of creative art and artificial Intelligence in Ebonyi state and possibly identify potential collaborative areas, strategies for action implementations, then propose a framework for integrating the disciplines to achieve sustainable development. Study adopts simple percentages in analyzing data. The simple aim of this study is to key into determining the role of technology in sustainable development through the fusion of creative art and artificial intelligence. The study recommends that unlocking new frontiers in design thinking would enable high creative expertise and professional dispositions of practitioners, promotes and ensure cultural diversity for easy accessibility of cultural information, it will breed digital solutions in creative productions among all.

Keywords

- Confluence, Creative art
- cultural-diversity
- Artificial Intelligence
- Technological advancement
- Sustainable Development.

Rethinking Artificial Intelligence (AI) Applications in Librarianship: Implications for Library Schools in Developing Countries

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Abstract

The paper focused on rethinking artificial intelligence (AI) applications in librarianship: implications for library schools in developing countries. Objective and methodology: The paper highlight on the concepts and justification for incorporating artificial intelligence (AI) to library practice; it explores the impact of artificial intelligence in librarianship; it presents the implications of artificial intelligence for library schools in developing countries; The various challenges to effective integration of artificial intelligence in library schools were properly identified and explained. The authors adopted documentary analysis through review and analysis of extensive literatures on the subject matter. The discourse was presented thematically under various subsections according to the objectives of the paper. Findings: The major implications of AI identified in the discourse include revisiting the curricula used in training future librarians, cross-fertilization of ideas on how AI tools can be embedded to library schools, acquisition of relevant and functional digital infrastructure, training and re-training of library educators in AI related skills. Several challenges were also identified among which is lack of skilled in AI applications, cost implication, displacement of human factors, etc. Originality/value: This paper contributes to existing literatures in artificial intelligence applications to library practices with reference to library schools in developing countries. It provides a framework for further studies relating to artificial intelligence applications in librarianship and its implications for library schools in developing countries. Conclusion: The paper established that AI has brought changes in the global arena and librarianship as a profession is not exempted; More so, in consonance with the five laws of librarianship which states that "Library is a growing organism", library and information science educators have to be proactive and pragmatic in embracing AI-related technologies for quality library education, especially in developing countries. Recommendations were made in line with the discoveries made.

Keywords

- Artificial intelligence
- Developing countries
- Librarianship
- Library Schools.

Ethical Consideration in the Deployment of Intelligent Systems for Educational Purposes: A Brief Literature Search

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Abstract

The paper explores a brief literature search on the ethical consideration in the deployment of intelligent systems for educational purposes. The educational sector in recent years noticed integration of intelligent systems in learning and teaching activities. It is not surprising that AI driven tools have potential of revolutionizing the learning environment. Thus, the paper highlighted educational purposes of deploying intelligent systems (artificial intelligence) which include enhancement of student engagement and improving academic outcomes, provide customized feedback, which can significantly support student's mastery complex subjects, identification of cognitive and emotional needs of learners in which learners are provided with personalized support, increase performance and rate of dropout decrease, facilitates effective formative and summative assessment of students complex knowledge. Some of the ethical concerns on deployment of intelligent systems (artificial intelligence) for educational purposes reviewed in the paper is data privacy considering sensitive of the information collected, concerning the biases and inequalities of the Algorithms which affects the fairness, openness and accountability of the systems and deter trustworthiness of the student assessment and performance evaluation among others. Review of the potential applications of artificial intelligence in education systems such as personalized learning, automated grading and feedback, adaptive learning resources were also discuss and lastly the ethical consideration in the deployment of intelligent systems for educational purposes were highlighted in the paper include privacy and data security which focused for the need of stronger legal frameworks and regulations that educational institutions handle data responsibly, guide how the data is collected stored and used among others.

Enhancing Public Health and Populations Well-being through Artificial Intelligence

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Abstract

Artificial intelligence is redefining the field of public health and improving the well-being of populations through its capability to analyse enormous datasets and provide innovative solutions to optimise healthcare systems. In today's age of rapid hi-tech progress, the unification of AI tools and algorithms has the aptitude to revolutionise our approach to disease detection, healthcare provision, and policy development. Through the utilisation of AI, public health efforts can become more streamlined, impactful, and adaptable to the various needs of communities. By leveraging predictive analytics, AI can enhance early disease detection, improve epidemiological modeling, and enable more effective disease prevention strategies. AI-drive technologies in medical diagnostics, personalise medicine, and wearable health devices are already transforming the way healthcare is delivered, enabling earlier diagnoses, better resources allocation, and improved management of chronic conditions. Despite these innovations, application of AI in the public healthcare is threated with issues like data privacy, integrity, algorithm bias, and transparency amongst others. To fully realise the potential of AI in public health, it is crucial to develop ethical structures and regulatory standards that promote fairness, equity, and accountability. This paper digs into the diverse ways in which AI is enhancing public health outcomes, while examining ethical concerns, data security issues, and the promotion of health equity for all individuals.

Deep Learning and IoT Sensors for Real-Time Crop Disease Detection and Field Condition Monitoring

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Abstract

Sustainable agriculture is critical for addressing global food security and ensuring resilience against climate change. Smallholder farmers in low-resource environments face challenges in managing crop health due to limited access to diagnostic tools and real-time field data. Integrating Artificial Intelligence (AI) and IoT sensors provides scalable, cost-effective solutions for disease detection and field condition monitoring. This study explores a MobileNetV2-powered mobile application, enhanced with IoT-based field condition monitoring, to deliver real-time crop disease diagnosis and actionable insights into field conditions. Existing solutions often require high computational resources, lack IoT integration, and fail to provide real-time field monitoring, making them unsuitable for low-resource settings. This study developed and evaluated an AI-driven disease detection app integrating IoT sensors for real-time field condition reporting, offering accessible and actionable insights for sustainable disease management. MobileNetV2 was selected for its efficiency in feature extraction and minimal computational overhead. A diverse crop disease image dataset trained and validated the model. IoT sensors captured critical parameters such as temperature, humidity, and environmental conditions, while synchronized visualization of this data was incorporated into the app's intuitive interface. Performance metrics, including accuracy, model size, inference speed, and sensor integration efficiency, were evaluated. Field tests in simulated low-resource environments confirmed practical usability. The MobileNetV2 model achieved 97.5% accuracy, outperforming traditional models with its smaller size and faster inference. IoT sensors enhanced diagnostic accuracy by providing real-time field condition data, enabling comprehensive crop health assessments. User feedback highlighted the app's usability, the value of sensor-based insights, and its potential to improve resource optimization and disease management for smallholder farmers. This integration of AI-powered solutions, MobileNetV2, and IoT sensors offers a transformative approach to sustainable agriculture. By enabling timely, data-driven decisions, the system reduces yield losses, enhances resource efficiency, and supports resilient farming practices. This study underscores the importance of interdisciplinary collaboration in combining AI, IoT, and equitable tool accessibility to advance sustainability in agriculture. Future work will expand disease coverage, refine IoT integration, and address scalability and deployment challenges.

Enhancing the Effectiveness of Solid Waste Management in Nigerian Cities: Artificial Intelligence (AI) Technology in View

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Abstract

In many developing nations, like Nigeria, the issues of solid waste management (SWM) are frequently worsened by technological challenges. This paper is aimed at unveiling the various technological challenges of SWM, and the role of artificial intelligence (AI) in enhancing efficient and sustainable solid waste management. Using keywords related to the research topic, relevant articles were downloaded and reviewed from various web search engines, and databases. With examples from major cities like Lagos, Ibadan, Port Harcourt, Kaduna, and Kano, the findings showed that the main technological challenges are: inadequate and inefficient waste sorting and segregation, lack of technological capacity for large-scale recycling and waste to energy (WTE) projects, underdeveloped composting, landfilling and incineration technology, inefficient waste collection and disposal, and the absence of geographic information system (GIS) and monitoring technologies among others. These challenges highlight the need for a smarter system driven by AI technology to transform solid waste management. The findings also revealed that AI technology can play a critical role in enhancing sorting processes of waste management, optimizing waste collection through smart route planning, predicting waste generation rates, monitoring landfill usage, detect illegal dumping activities, and alerts when waste bins are fill among others. This paper therefore recommends that Government (at all levels) and private institutions responsible for solid waste management in Nigeria should develop modern waste collection, sorting, and disposal facilities, including engineered landfills and recycling plants, and to utilize artificial intelligence (AI) technology for efficient solid waste management.

Keywords

- Challenges
- solid waste management
- technological
- waste generation
- artificial intelligence (AI)
- Nigerian cities

Harnessing Large Language Models for Enhanced Healthcare Data Interoperability in Kenya: Opportunities, Challenges, and Regulatory Considerations.

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Abstract

Healthcare data interoperability is of global significance, and this study addresses its specific challenges in Kenya, where fragmented healthcare data adversely impacts patient care. This research delves into the technical, socioeconomic, and ethical considerations associated with integrating LLMs into healthcare systems, emphasizing their potential as powerful tools for data standardization. Regulatory considerations explore existing healthcare regulations in Kenya, aligning them with international best practices for regulating LLMs. Furthermore, the study underscores its contribution to aligning healthcare data interoperability initiatives, including LLM implementation, with national priorities and goals in Kenya. Methodologically, the research synthesizes literature, case studies, and regulatory analyses. In conclusion, key findings inform evidence-based policies for advancing healthcare data management practices in Kenya, offering guidance to policymakers, healthcare professionals, and stakeholders.

Keywords

- Healthcare Data Interoperability
- Large Language Models
- Data Standardization
- Regulatory Framework
- National Healthcare Priorities.

Influence of Personalization and Digital Accessibility of AI technologies across Generations: A Comparative Study.

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Abstract

This research investigates impacts of personalization and digital accessibility of AI technologies across different generations from Boomers down to Gen alpha. Information needs is diverse especially when people with varying age is involved. However, with the increasing reliance on AI powered technology and the digital divide that existed among generations, this study aims to understand how AI can be leveraged to create more inclusive digital experiences for individuals with varying levels of technological proficiency and age-related needs. The research is to examine the current state of digital accessibility for different generational cohorts with consideration on their unique challenges and information needs. The study as well identifies the potential benefits and drawbacks in personalization of AI technologies towards enhancing digital accessibility for each generation. The study adopts descriptive survey research where qualitative data was gathered from ten (10) participants, two from each generation cohorts. A thematic analysis of the results was carried out using a comparative approach to draw inferences. Recommendations were drawn from the findings to provide valuable insights for individual of varying technological age groups, educators, information professionals, technology developers, policy makers and researchers on how to ensure a more inclusive and equitable digital landscape for all generations through AI technology.

Keywords

- AI technologies
- Digital Accessibility
- Generations
- Inclusive
- Personalization .

AI-Driven Knowledge Discovery in Libraries and Information Centers

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Abstract

Libraries and information centers are service oriented institutions saddled with the responsibilities of catering for the educational, research, recreational, cultural and information needs of users. The integration of AI in libraries marks a significant hallmark in this digital dispensation. AI innovations have heralded a new realm in libraries and information centers with robotic process automation, automated storage and data retrieval systems. AI has the ability to transform library services and operations with AS/RS for metadata extraction and analytics, personalized assistance using chatbots for unlimited connectivity and interaction, text-speech recognition and an improved digital curation and preservation systems. While there are numerous benefits affiliated with AI innovations in libraries and information centers, there are salient impediments associated with its incorporation. These challenges must be carefully addressed ranging from ethical concerns, librarians job displacements, technical complexities to exasperating disparities between the existing systems and AI innovations. Tackling these challenges requires a positive synergy between IT consultants, AI specialists and Librarians. Basically, this study examines the importance of libraries and information centers in the society, users' perception and experiences with AI oriented libraries, exploring the potentials of AI innovations in libraries, librarians' readiness in accommodating AI, the required skills librarians require in AI management for optimum use, rooting out the challenges of transcending to AI innovation and the future of AI in libraries and information centers.

Keywords

- Artificial Intelligence
- Librarians
- Libraries
- Information Centers
- Innovations

AI and Multimedia Communication Transformation for a Sustainable Future: Enhancing Audience Engagement and Collaboration in Education, Entertainment

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Abstract

Artificial Intelligence (AI) is revolutionizing multimedia communication, significantly transforming audio-visual content creation, distribution, and engagement across multiple sectors. The impact of AI on media and communication is vast and profound, ranging from personalized news delivery to enhanced content creation, distribution, and marketing. AI opens doors to entirely new creative possibilities and audience interactions. These innovations come with transformations that extend beyond efficiency gains. AI is a cornerstone of the industry's future, enabling people to craft richer experiences that are tailored to individual preferences and community dynamics. Multimedia Communications presents the latest information from industry and academic experts on all standards, methods and protocols. Internet protocols for wireless communications, transcoding of Internet multimedia for universal access, videoconferencing standards, speech and audio coding standards, multi-casting and image compression techniques are included. The paper explores AI's impact on multimedia communication in the domains of education, entertainment, and digital media, with a focus on how AI enhances audience engagement, collaboration, and content personalization. The paper also discusses the role of AI in promoting sustainability by optimizing resource use in content production and distribution. This paper concludes by highlighting the future potential of AI in fostering a more interactive, inclusive, and sustainable multimedia landscape.

Keywords

- Artificial Intelligence
- Multimedia Communication
- Audience Engagement
- Education
- Entertainment
- Digital Media and Sustainability

Exploring the Paradox of Gender Inequality in AI-Driven Innovations: A Critical Analysis of Opportunities, Challenges, and Future Directions

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Abstract

The integration of Artificial Intelligence (AI) in various innovations has transformative potential, but it also raises critical concerns about gender inequality. This study explores the paradox of gender inequality in AI-driven innovations, examining the opportunities, challenges, and future directions. A critical analysis of existing literature and empirical data reveals that AI-driven innovations can perpetuate and exacerbate existing gender inequalities, particularly in areas such as education, employment, and healthcare. However, AI can also be leveraged to promote gender equality by increasing access to resources, improving decision-making, and enhancing participation. This study identifies key challenges, including bias in AI systems, data limitations, and the digital divide. It also highlights opportunities for promoting gender equality through AI-driven innovations, such as developing inclusive AI solutions, addressing bias in AI systems, and promoting digital literacy. The study concludes by outlining future directions for research, policy, and practice, emphasizing the need for a critical and nuanced understanding of the complex relationships between AI, gender inequality, and social change.

Smarter and Greener: AI-Driven Sustainable Practices in Libraries

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University of Cape Coast

Abstract

The study explores the contribution of academic librarians in Ghana in enhancing environmental awareness and promoting community sustainability. A burgeoning global awareness of environmental sustainability is driving a shift towards eco-conscious behaviors, increasingly shaped by the influence of artificial intelligence. The role of libraries has expanded requiring contribution to the global movement toward a greener, more sustainable environment. The evolution of green libraries is critical to minimize environmental impact, conserve resources, and preservation of the environment for future generations. However, there is a notable gap in the literature regarding the application of AI in this context in Ghana. The qualitative research will employ a case study design to examine the views of academic librarians on promoting environmental sustainability using AI. Sample size for this study will be determined by saturation point. Data will be collected through interviews and analyzed using a thematic analysis. This study provides valuable insights into the role of libraries in fostering sustainability and environmental awareness. It explores the benefits of green libraries and examines the implications for professionals in space of information service, policymakers, and researchers. The findings aim to promote sustainable practices, raise environmental awareness within libraries, and contribute to a more sustainable future. The study objectives include exploring librarians' perspectives on AI-driven green practices in library services, assessing awareness of librarians leveraging AI to enhance environmental sustainability, and investigating the importance of AI in enhancing environmentally sustainable practices within communities.

Malthusian Population Problem In Relation To Artificial Intelligence (AI) and Its Implication on Economic Growth in the Central Senatorial District of Cross River State, Nigeria in West Africa

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Cross River State College of Education, Akamkpan Akamkpa

Abstract

This study examined Malthusian population problem in relation to "Artificial Intelligence" (AI) and its implication on economic growth in Central Senatorial District of Cross River State, Nigeria in West Africa. To achieve the purpose of this study, three research questions were formulated to guide the study. The subject of this study was made up of One hundred (100) respondents who were randomly selected from five (5) communities for this study and through the use of Simple Random sampling techniques. The main instrument that was used for data collection was the questionnaire and the data collated was analyzed using simple percentage. The findings revealed that persistent population growth can force farmers and fishermen to over-exploit fragile ecosystems with damaging results, It can also increase pressures on local infrastructure and services and could lead to competition on land use which could result in intra and inter communal crisis. Based on the findings of this research work, some recommendations were made; (1) Proper enlightenment campaigns should be carried out regularly to educate people on the effect of having a number of children you cannot manage. (2) People should be educated on the importance of birth control and its measures. (3) Government should help by providing economic resources to increase the standard of living of the people.

Keywords

- Malthusian
- Population
- Economic Growth
- Artificial Intelligence

AI, a Tool for Driving Digital Transformation and Sustainable Innovation

Jason Baritoesae
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Abstract

Artificial Intelligence is one of the core drivers of digital transformation and has been radically redefining many sectors while driving sustainable innovation in a world of rapid technological changes and global environmental challenges. This paper investigates how AI technologies enable organizations to reconsider their processes, products, and services in line with sustainability goals. By adopting AI-driven insights, organizations are able to improve operational efficiency, reduce resource consumption, and develop innovative solutions to critical societal and environmental issues. The presentation addresses the symbiosis of AI and sustainability through case studies in industries such as energy, manufacturing, health, and transportation. Major applications include predictive analytics for resource efficiency, intelligent systems for circular economy practices, and AI-enhanced decision-making to mitigate environmental impact. Emphasis is placed on the ability of AI to discover unexploited opportunities, streamline workflows, and drive innovation that balances economic growth with ecological responsibility. Moreover, this will critically analyze the ethical and operational challenges of integrating AI into sustainable initiatives. Among the topics to be covered are the environmental cost of AI infrastructure, biases in AI algorithms, and the need for equitable access to technology. Strategies are then proposed for overcoming these challenges, based on collaboration, transparency, and the adoption of green AI practices. The results show that artificial intelligence goes further than being an efficiency tool; it acts as a driver of deep transformation and opens avenues for the realization of lasting sustainability goals. This presentation is a call to stakeholders to reconsider the possibilities in AI and to make a concerted effort at responsibly unlocking its potential toward a resilient and sustainable future.

Assessing the Influence of Artificial Intelligence on Academic Integrity in Computer Science Education

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Abstract

This study examines the influence of Artificial Intelligence (AI) on academic integrity in computer science education, with a focus on final-year students at Joseph Sarwuan Tarka University, Makurdi, Nigeria. The research aims to explore the awareness of AI tools among students, the impact of AI-generated work on students' academic integrity, the strategies used by students to avoid detection of AI-generated work, and the effectiveness of existing strategies by faculty members to identify AI-generated content. The research employs a quantitative approach to collect data through online surveys and paper-based questionnaires. Purposive sampling is used to select a total of 95 participants (90 students and five faculty members) for the study. Out of 95 distributed instruments, 89 are successfully retrieved, representing a response rate of 93.7%. Data analysis and presentation is carried out using descriptive statistics of frequency tables, percentage count, and charts aided, by SPSS version 21. From the results, key findings reveal that most students are moderately familiar with AI tools, and frequently use these tools particularly for essay writing and research assistance. Time constraints, conceptual difficulties, and the desire for better grades are the main motivations for AI usage. Students employ strategies such as manual editing and paraphrasing to avoid detection, reflecting efforts to obscure AI-generated content. Faculty members, although aware of the presence of AI-generated work, exhibit limited usage of detection tools, with only a few consistently using them. Their confidence in identifying AI-generated work is relatively low, with most reporting slight confidence. The study concludes that while AI tools offer academic support, they also pose ethical challenges related to authorship and originality. Recommendations include updating institutional policies on AI use, training faculty on detection methods, and educating students on ethical AI usage. The findings contribute to ongoing discussions on the role of AI in higher education and highlight the need for proactive strategies to uphold academic integrity in the face of AI-driven advancements.

Organizational Records Management and AI Driven Data Protection Audits the Case of County Government of Nyeri Human Resource Registry

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Abstract

Records management concerns itself with the maintenance of reliable evidence of business activities, compliance with legal and regulatory requirements and support of efficient and effective management of an organization's operations. Records are about data that needs to be protected and with automation, the need for protection becomes even more critical. Artificial intelligence can be used as a tool to enhance the process of auditing of data protection processes and standards of organizational records. Human resource records are part of organizational records that are most sensitive and hence the need to secure them and conduct an audit against them. This research evaluates existing frameworks on organizational data protection audits using black box testing. It recommends an AI driven framework for data protection audits. The study is based on data from County Government of Nyeri.

Keywords

- AI
- Data Protections
- Records Management
- Data Protection Audit
- Organizational Records Management
- AI driven Data Protection Audits
- Intelligence

The Role of Artificial Intelligence (AI) in Sustainability of Academic Libraries in Kenya

George Mwangi Wamahiga

Abstract

Academic libraries are undergoing a shift in the way knowledge is arranged due to artificial intelligence (AI), which brings both new opportunities and obstacles for sustainable development. The way information is accessed, arranged, and delivered is being drastically changed by the introduction of artificial intelligence (AI) technologies into libraries. This presents a number of opportunities to improve library operations and services. Artificial intelligence (AI) technologies, including machine learning, data analytics, and natural language processing, are being used more and more to enhance search capabilities, automate repetitive operations, and customize user experiences. Universities in Kenya are beginning to research and utilize Artificial Intelligence (AI) as a tool for sustainability, while the amount of acceptance varies widely. Even though some colleges have made great progress, many still struggle with resources, facilities, and knowledge. While Artificial Intelligence (AI) has significant potential to enhance library sustainability in Kenyan universities, various challenges hinder its full implementation. Many university libraries lack the necessary hardware, such as AI servers, advanced sensors, and IoT devices, to implement AI systems. The general objective of the study will be to explore the role of artificial intelligence (AI) in academic libraries sustainability. The specific objectives will be; to assess the librarian awareness towards use of AI, and to examine the role of artificial intelligence (AI) in library sustainability. The study will be guided by diffusion of innovation theory and technology acceptance model. The study will adopt qualitative research method and apply retrospective research design. The study will use secondary data that will be collected using systematic literature review. The study will involve review of ten case studies of AI in academic libraries conducted between 2020-2024. Data will be analyzed using thematic analysis. Emerging themes from the reviewed studies will be grouped together and tabulated.

AI in Archives and Records Management for Cultural Preservation

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Abstract

Artificial intelligence (AI) is cutting-edge software that excels in performing tasks requiring human mental prowess at a rapid pace. The capability of AI is enormous and has potential to transfigure the field of archives and records management, providing new opportunities for the preservation, organisation, and user-friendly accessibility of cultural heritage. AI machine tools such as machine learning, natural language processing, and computer vision, are enhancing the efficiency of digitisation processes. They automate the classification and indexing of historical records, and enhance the searchability of extensive archival collections. This task is done via analysing and extracting valuable metadata from textual, visual, audio materials, AI not only enhances the preservation of delicate documents but also enables the reconstruction of deteriorated or incomplete records. Besides, AI-driven tools facilitate multilingual translations and provide more inclusive access to different categories of cultural resources. However, application of AI in cultural heritage preservation comes with challenges which include data privacy, need for equity in maintaining the integrity and authenticity of historical materials. The development of ethical standards is crucial to enhance fairness, equity, and accountability in use of AI in archives and cultural preservation. This paper examines the growing role of AI in retrospective digitisation processes, classification and indexing of archives and historical records management, highlighting its potential to cultural preservation as well as addressing ethical and professional considerations for future implementation.

Unethical Use of Artificial Intelligence Manifested in Exam-Cheating Behaviours by Students in Public Universities in Kenya: an Emergent Challenge

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Abstract

Artificial Intelligence (AI) poses an emergent threat of being abused in propagating exam-cheating behaviors by students has not been fully appreciated by relevant authorities in Kenyan public universities. This study aimed at identifying the AI as a tool that also promotes AI-related cheating behaviors by students in circumventing examination rules and offer suggestions on how to counter this malpractice in Kenyan public universities from the perspectives of lecturers and students. The study was guided by the Social Learning Theory and the Technological Development Theory. Qualitative research design was used to explore emergent challenges of unethical use of AI and convenient sampling technique was used. Focused group discussions and document analysis were used to obtain data. The data was analyzed using thematic to identify patterns as emergent themes of interest for the study. The study established that AI-assisted cheating as a form of exam malpractice is widely manifested as a normal behavior in students. Secondly, lack of digital tools and ignorance by lecturers and administrators contributes to the perpetuation of the vice in public universities in Kenya. The study recommends formulation of clear policies to tackle these problems in public universities. The value of the research findings is creation of awareness of the pervasive nature of AI-assisted exam cheating malpractices in universities.

Perception of Artificial Intelligence Application to Farming among Undergraduates of Agriculture in Ondo State, Nigeria

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Abstract

Artificial intelligence (AI) is rapidly attracting global recognition, though initially in developed countries but it has found its way into the developing countries and into agriculture, which is still being practiced with the use of crude implement. Students of agriculture is expected to have certain knowledge of the artificial intelligence application to farming. However, their perception of AI is grossly unknown in Nigeria, particularly in Ondo State based higher institutions with viable faculty of agriculture. Therefore, the study investigated the perception of artificial intelligence (AI) applications to farming among undergraduates of agriculture in Ondo State, Nigeria. A descriptive survey was conducted on 117 students from two universities, Federal University of Technology, Akure (FUTA) and Adekunle Ajasin University, Akungba-Akoko (AAUA), due to their functional and viable faculty of agriculture. The findings revealed that, while students are generally aware of AI's potential benefits, concerns exist regarding labor displacement, cost, and complexity. There was a favourable perception of AI among students and this was linked to higher knowledge level recorded in the study. Also, there was a positive correlation between knowledge and perception (Beta = 0.273, Sig = 0.003). It was found that significant constraints to AI adoption include illiteracy, inadequate information, poor attitudes, limited funds, small-scale farming, and lack of credit facilities. The study concludes that undergraduate students of Ondo State Universities with the faculty of agriculture had positive perception towards the application of AI to farming and their knowledge of AI was also high. The study recommends that AI based courses in agriculture should be mounted in the Nigerian Universities to enhance the knowledge and perception of the AI application to farming as this will attract young farmers into the Nigerian agrifood systems.

Keywords

- Agriculture
- artificial intelligence
- application
- farming

AI-Driven Innovations in Book Publishing for Sustainable Development in Southwestern Nigeria

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Abstract

In this era of technological innovations and changes, the book publishing industry is, no doubt, undergoing a lot of transformative shift. This is particularly so with the integration of Artificial Intelligence (AI). Artificial Intelligence has introduced rewarding novelty into every aspect of human endeavour and book publishing is not an exception. This paper explores the unique changes which AI has brought to the hitherto heavily manual book publishing practice in Southwestern Nigeria. From the basic book publishing processes of manuscript acquisition to origination and design, editing, indexing and printing; AI is simplifying publishing processes, enhancing creativity, beautifying outputs, and amplifying innovations. The roles of authors, designers, editors, publishers and other collaborating professionals are being redefined. From the electronic content generation and AI-assisted editing, attractive formatting, effective layout to enhanced cover design and AI-powered publishing platforms, the paper examines the current gradual transition of publishing activities in southwestern Nigeria from manual to digital, and future implications of AI-driven innovations in book publishing. Our analysis reveals the potentialities of AI not only increasing efficiency and productivity but also creating new opportunities for authors, publishers, and readers, thereby democratising the publishing process.

Keywords

- Book publishing
- Artificial Intelligence
- Publishing practice
- Sustainable development

Application of AI Technology in the Records Management System of the National Archives of Nigeria, Ibadan Oral Presentation

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Abstract

The integration of Artificial Intelligence (AI) technology into the records management practices of the National Archives of Nigeria, Ibadan represents a transformative approach to enhancing the efficiency, accessibility and preservation of historical and contemporary records. This study will explore the various applications of AI tools to improve records management system in the National Archives of Nigeria, Ibadan. By implementing AI-driven solutions, the Archives can automate routine processes, enhance metadata generation and facilitate advanced search capabilities that allow users to efficiently navigate vast collections. The descriptive research design will be used and all the records management personnel of the National Archives of Nigeria, Ibadan, will be enumerated. Data will be collected with the aid of a questionnaire and analysed with the use of simple frequency and percentages, mean and standard deviation facilitated by the Statistical Product Service Solution (SPSS). Results will be presented in tables and discussed. The findings of this study will go a long way to present empirical facts on how the records management personnel view the adoption of AI technology. The findings will highlight obstacles to AI adoption in the National Archives of Nigeria. And might reveal developing a strategy plan for implementing AI in archives and records management operations, funding archivists and records management personnel training and development initiatives, and collaborating with other archival institutions in order to address the issues that have been discovered. By addressing the challenges, the application of AI technology within the records management system of the National Archives of Nigeria, Ibadan, not only promises to enhance operational efficiency but also serves as a crucial step toward preserving Nigeria's rich heritage in an increasingly digital world.

Keywords

- AI
- Records Management System
- National Archives of Nigeria

Towards promoting ethical use of AI tools by students of higher educational institutions: role of media literacy skills

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Abstract

Artificial Intelligence (AI) seems to be one of the most significant invention in this Century as it application cuts across different sectors, one of which is education. Some students, especially those in higher educational institutions use AI for different academic activities and as a result of its effectiveness, they could be prone to misuse it. However, if these students have the required media literacy skills, they might use AI tools ethically. Thus, this paper examined the role of media literacy skills in promoting ethical use of AI by students of higher educational institutions. Artificial Intelligence (AI) seems to be one of the most significant invention in this Century as it application cuts across different sectors, one of which is education. Some students, especially those in higher educational institutions use AI for different academic activities and as a result of its effectiveness, they could be prone to misuse it. However, if these students have the required media literacy skills, they might use AI tools ethically. Thus, this paper will examine the concept of AI and also describe the different types of AI tools that students of higher institutions use for their academic activities. In addition, the paper will describe the various acts that constitute unethical use of AI and also explain the concept of media literacy skills and its role in contacting unethical use of AI. The paper will conclude with practical recommendations for relevant stakeholders

Sensitization of Communities on the Role of Artificial Intelligence to the Patronage of Trado-Cultural Medicine for Community Health Improvements in Niger State

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Abstract

Traditional-Cultural medicine (TCM), also known as native healing, or complementary and alternative Medicine (CAM), is the oldest form of health care system that has stood the test of time. It is an ancient and culture-bound method of curing that humans have used to cope and deal with various diseases that have threatened their existence and survival. Consequently, different societies have evolved different forms of indigenous healing methods that are captured under the broad concept of TCM, like the Chinese, Indian and African traditional medicines. There are strong indications that traditional health care systems are still in use by the majority of the people not only in Africa but across the world. In recognition of the vast potential of traditional medicine and its immense contribution to the continent's sustainable development in the wealth and well-being of her people, poverty alleviation, wealth and job creation, the African Union declared the period of 2001-2010 as the decade for African Traditional Medicine with a directive that research on African traditional medicine be made a priority.The increasing popularity of artificial intelligence (AI) applications in medical practices, the integration of AI technologies into medical education has garnered significant attention. The objective of this paper is to sensitize the communities on the role of AI to the patronage of trado-cultural medicine for community health improvements in Niger State, Nigeria. This will create an enabling environment for TCM to impact more to the well-being of the communities.

Keywords

- Artificial Intelligence
- Communities
- Community Health
- Improvements
- Patronage
- Role
- Sensitization
- Trado-cultural Medicine

Transforming Academic Library Reference Services: The Role of Artificial Intelligence and Emerging Technologies

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Abstract

Academic libraries play a pivotal role in supporting teaching, learning, and research activities within their parent institutions. In today's information-driven world, delivering efficient, effective, timely, and reliable reference services is essential across diverse information and research domains, including academic libraries, archival institutions, and research organizations. However, traditional reference services face significant challenges, such as navigating large databases, addressing users' difficulties in searching, retrieving, and evaluating relevant sources, and meeting the increasing demand for quick and accurate responses. These limitations highlight the need for innovative approaches to reference service delivery.

This study critically examines the integration of Artificial Intelligence (AI) in academic library reference services as a solution to address these challenges. The research employs a comprehensive literature review to explore the significance of AI policies in academic libraries, the awareness, benefits, and challenges of AI-assisted reference services, and their potential to transform service delivery. Findings underscore that AI can enhance reference services by managing vast information resources, reducing response time, ensuring accuracy, and providing personalized solutions tailored to users' needs and contexts. The study recommends that academic library staff prepare for AI-driven transformations by familiarizing themselves with emerging technologies and fostering AI awareness among users. Furthermore, the adoption of structured AI policies is critical for guiding the seamless integration of AI technologies into library operations, ensuring ethical and effective use. These measures will enable academic libraries to remain responsive and relevant in a rapidly evolving information landscape.

Keywords

- Academic libraries
- Artificial Intelligence
- AI Policy
- Emerging technologies
- Reference services

The Future of Democracy in a Digital Age: Interrogating the Use of AI in Election Administration in Nigeria.

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Abstract

The crave for credible, free and fair elections has been a recurring decimal in the annals of electoral politics in Nigeria. It is indeed one of the major obstacles to democratic consolidation in the country. This paper therefore examines the impact of Artificial Intelligence in the election administration in Nigeria. The study adopted a descriptive qualitative method. Data were gathered from secondary sources using the position papers, research materials, literature on electoral management and other relevant internet materials. The paradigm of this phenomenon could be best explained by innovation theory which provides a useful frame work for understanding on how AI can be adopted and implemented in Nigeria's election management. The central argument is that the use of Artificial Intelligence (AI) for election management are sin qua non to free, fair and credible election in Nigeria. This is premised on the assumption that AI has the potential to offer a significant relative advantage over traditional manual systems by providing faster, more accurate and more transparent results. The study revealed that AI can be a game changer in Nigeria election management to reduce the frictions associated with manual election. The paper therefore recommend Artificial Intelligence in election management, has the potential to improve the integrity, efficiency and transparency of Nigeria's electoral process.

Keywords

- Artificial Intelligence (AI)
- credible election
- Democracy
- Democratic Consolidation

Role of AI in Enhancing Waste Disposal for Sustainable Environment in Nigeria

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Abstract

Man as a social being lives in and needs the environment to survive. In order to carry out daily activities in the physical environment, it becomes necessary to exploit or explore resources that make life meaningful. In this process, waste is generated. A lot of wrong practices are carried out which have negative effects on the environment, one of such is the improper methods of waste disposal. To ensure a sustainable environment, nations of the world including Nigeria met at a conference in 1992 in Rio de Janeiro, Brazil to brainstorm on the collaborative efforts of member countries to preserve mother earth, plants and animals so that future generations will have what to live on. Waste disposal is a very important issue in any society and Nigeria in particular. It is what determines either a clean, healthy environment or one that leads to pollution, epidemics, disease outbreaks, deaths, etc. Nigeria as a very populous nation has been grappling with these challenges overtime. Waste is usually dumped in gutters, drainages, rivers, streams, bushes, or littered on unauthorized places like markets, streets, roadsides, etc., resulting in blocked drainages causing floods, air pollution which has led to disease outbreaks, epidemics and deaths in communities and cities. To tackle these challenges, AI technology which uses modern initiative method to manage waste by recycling, route planning, data gathering, usage of intelligent rubbish bins, West separation, reduction in transportation distance, reduction of waste in space etc. should be applied. AI can bring a total transformation in how waste is processed, handled and recycled for a clean and healthy society. This paper recommended among other things that the government should adopt the AI technology to enhance waste disposal for a clean, healthy and sustainable environment in Nigeria.

Keywords

- AI
- waste disposal
- sustainable environment

Plausible futures for Higher Education in the Age of Artificial Intelligence

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Abstract

The complex global challenges and the rapidly evolving technological landscape prompted by advancements in multifaceted technologies such as artificial intelligence, the Internet of Things, and blockchain, have led to the emergence of responsible foresight. Responsible foresight is a critical framework for policymakers and stakeholders aiming to navigate future uncertainties, allowing them to shape future outcomes effectively. This study examined plausible futures for higher education over the next decade in light of advancements in artificial intelligence. The study adopted the delphi methodology, an iterative process that synthesizes expert opinions through multiple rounds. 30 experts from academia, government, and industry were recruited for the study. The aim of the study was to develop plausible future scenarios that will inform policy and strategic decision-making. The findings highlight key drivers of change, including AI driven learning systems, personalized education systems, and the emergence of new roles for educators. The scenarios visualize higher education institutions evolving into centers of innovation and collaboration, leveraging AI to enhance accessibility, inclusivity, and skills development. The study demonstrates the need for policies that address ethical considerations, workforce readiness, and infrastructure gaps to harness AI's potential in higher education effectively.

Exploring AI in Bibliotherapy: The Pros and the Cons

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Abstract

The article explored the integration of artificial intelligence (AI) into bibliotherapy. Bibliotherapy, the therapeutic use of literature to address social, emotional, and psychological challenges, has long been employed by librarians to assist patrons in achieving behavioural adjustment through books and other written materials. With the increasing integration of AI into various aspects of human life, its application in bibliotherapy has emerged as a promising approach to enhancing the therapeutic use of literature. This study examined the benefits and potential drawbacks of incorporating AI into bibliotherapy as documented in existing literature. The study involved a systematic review of the literature. Findings highlighted several advantages, including AI's ability to enhance the relevance and effectiveness of bibliotherapy interventions through highly personalised recommendations tailored to an individual's preferences and emotional state. However, the study also identified potential risks, particularly the loss of empathy and nuanced guidance typically provided by a human therapist in traditional bibliotherapy. The article concluded that while integrating AI into bibliotherapy holds significant potential, it must be approached with caution and a strong emphasis on ethical considerations.

ICT Literacy Skills, Attitudes towards Artificial Intelligence Adoption and Digital Preservation Practices in Federal University Libraries in Southwest Nigeria

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Abstract

University libraries play a pivotal role in supporting academic research and learning but face challenges such as inadequate digital preservation practices, lack of ICT literacy skills and resistance to AI adoption. The study explores the relationships between ICT literacy skills, attitudes towards AI, and the effectiveness of digital preservation strategies, focusing on computer literacy, internet literacy, and information literacy. It identifies factors like limited training, funding, and infrastructure as key barriers. This study investigated ICT literacy skills, attitudes towards artificial intelligence (AI) adoption and digital preservation practices in federal university libraries in Southwest Nigeria. The descriptive survey research design of the correlational type was adopted. The population consisted of 204 library personnel in library personnel in all federal universities in South-west, Nigeria. Total enumeration sampling technique was used for this research, questionnaire was used as the instrument of data collection. The data was analysed using descriptive statistics, using the simple percentages, frequency count and standard deviation. The findings revealed that the most prevailing ICT literacy skills possessed by library personnel are: the ability to use the internet in search of information ($\bar{x}$= 3.64, std= 0.51), the have the ability to use the internet to communicate information ($\bar{x}$= 3.58, std= 0.56), the have the ability to use different online search engines ($\bar{x}$= 3.56, std= 0.61). The findings revealed a positive attitude ($\bar{x}$= 3.35) to AI adoption by the respondents. This implies that majority of the respondents ($\bar{x}$= 3.46, std=0.60) indicated that AI adoption will significantly improve the efficiency of digital preservation processes in the library. the prevailing digital preservation practices in the libraries are: the library transfers digital materials from one generation of computer technology to a subsequent one e.g transfer information on a floppy disk to CD-ROM or conversion of Microsoft Word to PDF (Migration) ($\bar{x}$= 3.13, std= 0.77), the university library has a well-defined digital preservation policy" ($\bar{x}$= 3.17, std= 0.80), the library regularly migrates digital content to new formats to ensure long-term access ($\bar{x}$= 3.14, std= 0.77), the library converts materials from hard copies to electronic copies (Digitisation) ($\bar{x}$= 3.13, std= 0.86) and the library keeps and maintain the technological environment used for the creation of contents including operating systems, original application software, media drives. The finding showed that no significant correlational relationship exists between ICT literacy skills and digital preservation practices (N = 166; p > 0.05). This implies that the level of ICT literacy skills of the library personnel has no influence on their engagement in digital preservation practices. Digital preservation practices are essential in the preservation of digital items in the library; it is essential that library personnel possess adequate ICT literacy skills required to carry out these practices. It is also essential that artificial intelligence tools are deployed, though these may not be entirely deployed in their full strength but using them would aid the digital preservation activities in the library.

Empowering Sustainable Development Goals (SDGs) through Socially Responsible AI

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[1,2,3,4]Federal Polytechnic Ede

Abstract

This paper examines how Artificial Intelligence (AI) can advance Sustainable Development Goals (SDGs) through socially responsible practices. AI applications in healthcare, agriculture, education, and renewable energy demonstrate significant potential to address global challenges. However, ethical issues like bias, privacy, and inequality pose risks. The study emphasizes the importance of inclusive, transparent, and equitable AI development, supported by strong policy frameworks and global collaboration. By fostering responsible AI innovation and addressing socio-economic disparities, AI can drive sustainable progress, enhance social good, and ensure its benefits are accessible to all communities. Artificial Intelligence (AI) has emerged as a transformative tool capable of addressing complex global challenges, including those outlined in the United Nations Sustainable Development Goals (SDGs). This paper explores the intersection of AI and sustainable development, focusing on responsible AI practices that mitigate ethical risks and maximize benefits for social good. We present a review of current AI applications across healthcare, agriculture, renewable energy, and education, examining their impact on specific SDGs. Additionally, the paper discusses frameworks for socially responsible AI and provides policy recommendations for promoting sustainable AI solutions. Our findings highlight the need for inclusive, ethically grounded AI development supported by global collaboration and robust policy frameworks, underscoring AI's potential to drive sustainable progress

Keywords

- Sustainable Development Goals (SDGs)
- Socially Responsible AI
- AI Solutions
- Ethical AI

An Overview of Security Systems in the Internet of Things

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Abstract

The rise of the Internet of Things (IoT) has revolutionized many aspects of our daily lives, offering convenience, efficiency, and productivity. This has led to a growing concern about security issues involving IoT devices and networks, and the need for effective security frameworks to protect them. This study aims to address the critical need for a robust and secure Internet of things security framework. Specifically, this study focuses on developing an extensive Internet of Things security framework that addresses the different and changing security problems naturally found in IoT environments. The purpose of this study is to give an overview of where IoT security systems currently stand, including their strengths and weaknesses, and to point to areas needing more research and development. The authors review the current state of the art in areas such as authentication, trust management, privacy, data security, network security, and intrusion detection systems. In addition, the authors discuss the strengths and limitations of knowledge-based, behavior-based and hybrid intrusion detector systems across various factors, such as their level of centralization, resource usage, and detection accuracy rates.

Bridging the Gap: Leveraging ICT for Transformative Engineering Education in Sub-Saharan Africa

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[1,2,3,4,5]Federal Polytechnic Ede

Abstract

Engineering education in Sub-Saharan Africa is a pivotal component for addressing the region's developmental challenges, such as infrastructure deficits and technological advancement. Despite its significance, the quality and accessibility of engineering programs are hampered by outdated curricula, insufficient resources, and infrastructural shortcomings. This research paper explores the critical role of Information and Communication Technology (ICT) in transforming engineering education by offering innovative teaching methodologies, enhancing curriculum development, and fostering student engagement. It examines how ICT can mitigate existing barriers through virtual labs, online resources, and collaborative platforms, while also addressing challenges such as infrastructure deficiencies, high costs, and digital literacy gaps. Successful case studies from countries like Kenya, Nigeria, South Africa, and Ethiopia illustrate the potential benefits of ICT integration. Finally, the paper provides strategic recommendations for effective ICT implementation, emphasizing the necessity for policy reform, capacity building, and localized solutions to create a sustainable educational framework. The findings underscore ICT's transformative potential in engineering education, aligning with global sustainability goals and equipping future engineers with the skills needed to tackle complexsocio-economic issues in the region.

AI-Driven Cinematherapy: Enhancing Mental Health Support by Librarians Among Undergraduate Students in Nigeria

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Abstract

This study explores the integration of artificial intelligence (AI) and cinematherapy to address mental health challenges among Nigerian undergraduate students. Cinematherapy, a therapeutic approach utilizing films, is enhanced by AI's ability to deliver personalized recommendations based on individual needs. Using a mixed-methods approach, the research highlights significant improvements in emotional regulation, stress reduction, and social connectedness among participants. It emphasizes the potential of AI-driven cinematherapy as a scalable and culturally adaptive solution for mental health care in resource-constrained settings. This innovative intervention is proposed as a vital addition to mental health support, particularly within academic library services in Nigeria. "The mental health challenges faced by Nigerian undergraduate students are growing concerns, exacerbated by academic pressures, financial hardships, and limited access to professional care. Cinematherapy, which utilizes the emotional and psychological resonance of films, offers a novel, non-stigmatizing approach to mental health support. Coupled with artificial intelligence (AI), this study explores how librarians can play a pivotal role in delivering personalized therapeutic interventions through AI-driven cinematherapy. Employing a mixed-methods approach, the study evaluates the impact of AI-curated film recommendations on emotional regulation, stress management, and social well-being among Nigerian undergraduates. Results highlight significant improvements in mental health metrics, underscoring the potential of integrating AI and cinematherapy in library services. This paper advocates for leveraging academic libraries as hubs for mental health innovation, addressing gaps in resource-constrained environments like Nigeria.

Keywords

- Bibliotherapy
- Cinematherapy
- Artificial Intelligence
- Mental Health
- Librarians

Revitalizing access to information: the role of AI-driven technologies in Libraries and Information Centres

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Abstract

Libraries and information centres are evolving from static information repositories to vibrant centers of innovation as a result of the incorporation of Artificial Intelligence (AI). This paper investigates how AI-driven solutions improve user experiences, information management and library operations. It highlights the way innovative AI is transforming knowledge accessibility and organization. The conclusion emphasizes how essential it is to integrate AI sustainably through staff training, teamwork and user-focused services in order to guarantee sustainable benefits for libraries and their users. "A new era of innovation has begun with the adoption of Artificial Intelligence (AI) into libraries and information centers. This has revolutionized the management, organization and accessibility of knowledge in libraries and information centers. This paper examines the various ways AI driven technologies can improve library operations, information management and user experiences. With the help of cutting-edge AI technology, libraries were thought of as information repositories but are changing into vibrant centers of innovation. Some of the important AI driven developments in the library include chatbots for round-the-clock virtual help, cataloging systems that allow accurate metadata creation and intelligent recommendation search engines that tailor user content discovery. Additionally, machine learning models make it easier to digitize and index large archives thus increasing their accessibility. In addition, predictive analytics optimizes resource allocation and collection management. By providing semantic search capabilities and enhancing accessibility for a variety of user populations, including people with special needs, artificial intelligence (AI) has also had a significant impact on information retrieval. The effects of AI on information management, library operations, and the collaborative frameworks that are transforming libraries and information centers in the twenty-first century are examined in this paper. This paper presents in the conclusion on the sustainable integration of AI technology through staff training, cooperative collaborations and user-centric services. Furthermore, this paper highlights the AI's revolutionary potential to build libraries and information centers that are more inclusive and futuristic.

Keywords

- Bibliotherapy
- Cinematherapy
- Artificial Intelligence
- Mental Health
- Librarians

Utilizing Artificial Intelligence to Address Policy Implementation Challenges in African Information Centers

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Abstract

Policy implementation is a critical stage in transforming legislative frameworks into actionable programs that serve public interests. However, challenges such as financial constraints, administrative bottlenecks, poor public awareness, and systemic barriers like the digital divide often hinder successful implementation, particularly in African information centers. Libraries and information centers, as key facilitators of access to information, are disproportionately affected by these challenges. The integration of Artificial Intelligence (AI) offers transformative opportunities to address these barriers. AI can optimize resource allocation, streamline administrative procedures, enhance public awareness through targeted campaigns, and bridge the digital divide by expanding access to underserved communities. Furthermore, AI-driven systems can improve data protection, ensure transparency, and strengthen enforcement mechanisms by automating monitoring and compliance. This paper explores the intersection of policy implementation challenges and AI solutions, focusing on Kenya's legislative frameworks such as the Constitution, the Access to Information Act (2016), and the Data Protection Act (2019). It highlights strategies for AI-enhanced capacity building, participatory policymaking, and monitoring, demonstrating how AI can amplify efficiency, equity, and accountability in policy execution. By leveraging AI technologies, African information centers can overcome systemic barriers, ensuring policies achieve their intended social and developmental impacts.

Bridging the Gap: How AI-driven Virtual Classrooms Can Increase Access to Quality Education in Remote Areas of Nigeria

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Abstract

Nigeria's education system faces significant challenges, particularly in remote areas. This study explores the potential of artificial intelligence (AI) to revolutionize education. AI-driven virtual classrooms can bridge the digital divide, offering personalized learning experiences, enhanced teacher capacity, and expanded access to quality education. Strategic planning, policy support, and infrastructure development are crucial for successful implementation. By harnessing AI technologies, Nigeria can improve educational attainment, prepare its citizens for the future, and foster a more inclusive and equitable society. AI can transform Nigeria's education landscape.

Nigeria faces a significant challenge in providing equitable access to quality education, particularly in remote areas. This study explores the potential of artificial intelligence (AI) to revolutionize education in Nigeria, with a particular focus on bridging the digital divide in remote areas. By examining the challenges faced by the Nigerian education system, which includes infrastructure deficits, teacher shortages, and unequal access, the research highlights the need for innovative solutions. AI-driven virtual classrooms emerge as a promising avenue to address these issues. The study delves into the potential of AI in personalizing learning, enhancing teacher capacity, and expanding access to quality education. While acknowledging the challenges and opportunities presented by AI, the research emphasizes the importance of strategic planning, policy support, infrastructure development, and continuous evaluation for successful implementation. By harnessing the power artificial intelligence technologies, virtual classrooms can offer students in remote locations access to qualified teachers, personalized learning experiences, and engaging educational content, ultimately improving educational attainment and prepare its citizens for the future.

Harnessing AI innovations to advance SDGs and societal well-being in Nigeria

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Abstract

Artificial Intelligence (AI) has become a powerful tool for addressing global challenges, including the United Nations Sustainable Development Goals (SDGs). This study examines the role of harnessing AI innovations to advance SDGs and societal well-being in Nigeria. With the use of primary data collected by means of questionnaire, surveys and interviews with stakeholders from government agencies, private sector organizations, and academic institutions, the research explores only three objectives of the SDGs: Poverty reduction, quality education and affordable healthcare. Employing the chi square statistical technique for the analysis, it was observed that there was a significant positive relationship between AI applications and improved income levels in urban areas but insignificant in rural areas. The results also show an improvement in access to education in both urban and remote areas and finally there was a significant improvement in healthcare access through AI driven mobile applications in urban areas but insignificant in the rural areas. While these findings will help provide a roadmap for leveraging AI to foster social equity and economic growth in Nigeria, the study also examines the challenges of deploying AI in Nigeria which includes inadequate infrastructure, skill gaps, and ethical concerns. It was therefore recommended that the Nigerian government should expand electricity and internet access to remote areas, subsidize AI technologies, provide digital training and encourage public private partnership to deploy AI solutions in the areas of education, healthcare and poverty alleviation.

Keywords

- AI
- SDGs
- Poverty
- Education
- Healthcare

Harnessing Artificial Intelligence for Sustainable Collection Development in Academic Libraries In Kenya

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Abstract

The rapid evolution of Artificial Intelligence (AI) presents an unprecedented opportunity for academic libraries to revolutionize their collection development processes. Harnessing AI can enhance decision-making, streamline resource allocation, and ensure the development of collections that align with the dynamic needs of academic institutions. This study examines the potential of artificial intelligence (AI) to support sustainable collection development in academic libraries in Kenya. The objectives of the study is to; explore the current collection development practices and their alignment to sustainable collection development in academic libraries in Kenya, evaluate the extent of adoption of AI for sustainable collection development in academic libraries in Kenya, evaluate the readiness of academic libraries to integrate AI into sustainable collection development, and propose a framework for integration of AI into sustainable collection development practices in academic libraries in Kenya . The study will adopt a qualitative research approach. A sample of 10 public and private academic libraries selected purposively forms the focus of the study. The data will be collected through open-ended questionnaires directed at collection development librarians, library administrators, as well as systems librarians. Data will be analyzed through conventional content analysis by deriving coding categories directly from the text data. The findings of the study intend to establish the opportunities and challenges associated with the integration of AI into sustainable collection development. The findings will also inform the development of a framework for integrating AI for sustainable development.

The Role of AI in Enhancing Accessibility of Digital Libraries for Users with Disabilities

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Abstract

Digital information is increasingly integral to ensuring equitable access to educational resources in universities. Artificial Intelligence (AI) is transforming the accessibility and usability of digital libraries, creating pathways for inclusive academic and informational engagement while offering transformative potential to enhance access for individuals with disabilities. This study will examine how AI technologies, such as natural language processing, speech recognition, computer vision, and machine learning can mitigate barriers to accessing academic and informational resources. The paper assumption is that the integration of assistive technologies and AI driven systems will address challenges faced by individuals with visual, auditory, and motor impairments, thereby promoting inclusivity and equitable access to knowledge. Employing a desktop research methodology, the study will critically examines relevant literature, accessibility requirements, and AI applications in digital libraries. The research will highlight the role of AI-powered tools like virtual assistants, text-to-speech systems, and personalized search algorithms in transforming library services. Moreover, it will identify ethical considerations, including algorithmic bias, data privacy, and the need for adherence to universal accessibility standards, as critical challenges to effective implementation. The findings will underscore the importance of leveraging AI to design inclusive digital library frameworks that accommodate diverse user needs. The study will propose a model for integrating AI technologies into digital libraries ensuring compliance with accessibility standards and guidelines and promoting a culture of inclusion. By providing actionable recommendations for policymakers, technologists, and library administrators, the research will contribute to the discourse on digital equity and underscore the pivotal role of AI in promoting equal educational opportunities and enhancing social inclusion for individuals with disabilities.

Strategic Marketing Innovation and Sustainable Competitive Advantage of SMEs in Kano State Nigeria: Moderating Effect of Management Capability

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Abstract

The main objective of the study is to examine the effect of strategic marketing innovation (i.e. product innovation, price innovation and distribution innovation) and sustainable competitive advantage of SMEs in Kano State Nigeria: Moderating effect of management capability. The study adopting quantitative research design and a sample of 220 SMEs registered with Kano State Chamber of Commerce, Industry, Mines and Agriculture [KACCIMA]. The result shows that the proxy of independent variable product innovation (PdI) has no significant effect on the performance of sampled SMEs. It is also found that green price innovation (PrI) has no significant effect on performance of sampled SMEs, the result indicated that distribution innovation (DsI) has a positive significant effect on performance of sampled SMEs. The finding also revealed that moderating variable (management capability) has a strong positive significant effect on performance of sampled SMEs. It was found that management capability moderate the relationship between strategic marketing innovation and SMEs performance. Therefore, it is recommended that SMEs managers should invest on improving management capability as it is proved that it strengthen the relationship between strategic marketing innovation and SMEs performance.

Moderating Effect of Organizational Culture on the Relationship Between Digital Transformation And SMES Performance in Jigawa State, Nigeria

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Abstract

Digital transformation and firms performance The findings of this study have a significant practical contribution to the SMEs in Jigawa State. It will help SMEs managers to achieve higher business performance through the inclusion of unique digital organizational culture. Therefore, it is recommended that SMEs managers should invest more in positive digital organizational culture practices in their operation process as it effect their performance and strengthen the relationship between dimensions of digital transformation and SMEs performance . "The main objective of the study is to examine the moderating effect of organizational culture on the relationship between digital transformation and SMEs in Jigawa State, Nigeria. The study adopted cross-sectional survey research design as data were collected at a single point in time. A sample size of 375 SMEs was used to represent the entire population, through Krejcie and Morgan (1970) formula. The results suggest that all the three measures of digital transformation (i.e. digital technological perspective, digital organizational perspective and digital social perspective) have no significant effect on SMEs performance. The result also, revealed that organizational culture have a strong positive significant effect on SMEs performance. Accordingly, the present study demonstrates that the organizational culture moderate the relationship between all the three dimensions of digital transformation (i.e. digital technological perspective, digital organizational perspective and digital social perspective) and SMEs performance in Jigawa State, Nigeria. The findings of this study have a significant practical contribution to the SMEs in Jigawa State. It will help SMEs managers to achieve higher business performance through the inclusion of unique digital organizational culture. Therefore, it is recommended that SMEs managers should invest more in positive digital organizational culture practices in their operation process as it effect their performance and strengthen the relationship between dimensions of digital transformation and SMEs performance .

Exploring the Integration of Artificial Intelligence for Enhanced Records Management and Archival Practices in Academic Libraries in Rivers State

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Abstract

The integration of Artificial Intelligence (AI) in records management and archival practices has emerged as a transformative approach to enhancing the efficiency and accessibility of information in academic libraries. This study explores the potential applications of AI technologies in academic libraries within Rivers State, focusing on their impact on records management and archival practices. By analyzing the current state of archival systems in libraries such as the Donald Ekong Library (University of Port Harcourt) and the Rivers State University Library, the study identifies gaps in existing workflows and examines how AI-driven tools, such as automated metadata generation, natural language processing, and predictive analytics, can address these challenges.The research employs a mixed-methods approach, combining qualitative interviews with library staff and quantitative analysis of archival performance metrics before and after AI tool implementation. Findings are expected to demonstrate how AI enhances document retrieval efficiency, improves records preservation, and supports compliance with institutional and regulatory standards. Additionally, the study explores barriers to AI adoption, such as funding constraints, skill gaps among library staff, and ethical concerns related to data privacy and algorithmic bias.This research contributes to the evolving discourse on the role of AI in academic libraries by offering actionable insights into integrating these technologies within the unique context of Rivers State. It underscores the importance of capacity building, policy formulation, and strategic investment to ensure the sustainable deployment of AI in academic library systems.

Post Covid-19 Human Resource Managers in Organizations: A Critical review of Literature

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Abstract

The world is increasingly becoming borderless with organizations moving from brick and mortar in an attempt to bridge the gap in performance. The emergence of COVID-19 as a disruptor in the workplace has forced many organizations to come up with strategies to assist them in performance. Despite the pandemic and its crisis, HR Professionals are evolving their organizations towards a new era of employee-centric work culture. HR Professionals are playing a critical role in improving working lives, and not going back into traditional ways of thinking and functioning. Today, work can be easily performed across various cultures, geographies and time zones. The revolution is here and you cannot afford to be left behind. The most common strategy that most organizations have adopted to have an inclusive performance by all employees is by having internet and interconnecting the employees so that they can work actively in the office and remotely. Instrumented, interconnected, intelligent systems seamlessly link organizations from every part of the world. The broad penetration of high-speed Internet has peeled away the barriers of time, distance and even language to create a global forum for the exchange of ideas and information. Technology has increased interaction and performance in organizations promoting a cohesive workforce that meets its targets and goals hence changing the traditional roles of Human Resource Managers.

Keywords

- Trans-border
- Peace
- Seamless
- Interconnected

AI versus the Library or AI and the Library?

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Abstract

The integration of Artificial Intelligence (AI) into library services has sparked significant discourse regarding its implications for the future of libraries, leading to the question: Is AI a competitor to libraries, or is it a tool that can enhance library services? This study will explore the multifaceted relationship between AI and libraries, emphasizing the transformative potential of AI technologies while addressing the challenges and ethical considerations involved. The study will be based on a qualitative method using content analysis techniques. An extensive literature review will be done on artificial intelligence and Libraries. The search terms and phrases will include: Artificial Intelligence, Libraries, AI opportunities for libraries, and AI challenges in the Library. The inclusion criteria will include relevant peer-reviewed articles published from 2020 to 2025, and with full text access. Harzing's Publish or Perish software will be used to retrieve and screen the articles. AI technologies are revolutionizing library operations by automating routine tasks, enhancing user experiences, and improving information retrieval systems. For instance, libraries are increasingly adopting AI for tasks such as subject indexing, collection management, and virtual assistance, which significantly increases efficiency and accuracy in service delivery. The advent of AI has led to the emergence of ""smart libraries,"" where interconnected systems utilize AI and the Internet of Things (IoT) to provide more personalized and user-friendly services. This transformation is not merely about replacing human roles but rather augmenting the capabilities of librarians, allowing them to focus on more complex and value-added services. However, the integration of AI into library services is not without its challenges. A prevalent concern among librarians is the fear of job displacement due to automation. This anxiety is compounded by the ethical implications of AI, such as potential biases in AI algorithms and the need for transparency in AI systems. Librarians must navigate these challenges while ensuring that AI technologies are implemented ethically and effectively. This includes engaging with stakeholders to address biases and fostering a culture of AI literacy among library staff and users.

Approaches to Using Artificial Intelligence and Digital Humanities in Remodeling Library Spaces

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Abstract

Libraries are evolving from static repositories into dynamic spaces for collaboration, innovation, and community engagement. This evolution aligns with the growing demand for sustainable practices, prompting the emergence of green libraries spaces that prioritize environmental responsibility. Integration of Digital Humanities into library spaces offers a pathway to achieve these goals by leveraging technology that expand library access and functionality, while supporting ecological friendly practices. This paper aims to examine how Digital Humanities can support eco-friendly initiatives, enhance accessibility, and foster research and innovation within the library spaces. The objectives of the study are; to examine the potential of Digital Humanities in enhancing resource access and innovation within library spaces. Assess the role of Digital Humanities in promoting sustainable library practices and reducing environmental impact. Identify challenges and opportunities in implementing Digital Humanities and green practices in library spaces. A mixed methods research will be employed to collect quantitative and qualitative data from both academic librarians and library users in Tangaza University. The data will be analysed using descriptive and inferential statistics. The findings of the study are expected to provide practical insights into how libraries can leverage technology to create more sustainable, innovative, and inclusive spaces.

Keywords

- Community engagement
- green spaces
- eco-friendly
- ecological impact
- environmental responsibility

Exploring the Potential of AI-Driven Sustainable Practices in Nigerian Libraries: Bridging the Gap Towards Green Innovations

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Abstract

The integration of artificial intelligence (AI) into sustainable practices for green libraries has gained traction globally, yet its adoption in Nigeria remains limited. Nigerian libraries face challenges such as inadequate funding, infrastructural deficits, and low digital literacy, which impede the implementation of AI-driven innovations. This paper explores the potential for leveraging AI to enhance green practices in Nigerian libraries, addressing environmental sustainability, resource optimization, and user-cantered services. The study examines the current state of library operations in Nigeria, identifying gaps in digital transformation and green initiatives, and underscores the role AI can play in bridging these gaps. Key areas of focus include energy-efficient systems, intelligent resource management, automated cataloguing, and the use of AI for predictive analytics in decision-making. Drawing insights from international best practices, this paper proposes a contextual framework for the gradual adoption of AI technologies in Nigerian libraries, emphasizing cost-effective strategies, capacity building, and policy development. It also highlights the dual benefits of AI adoption: advancing environmental sustainability and positioning libraries as hubs of technological innovation. The findings underscore the need for collaboration between stakeholders, including government agencies, library associations, and academic institutions, to foster AI adoption while maintaining cultural and contextual relevance. This research contributes to the discourse on sustainable library development in emerging economies, offering actionable recommendations for Nigerian libraries to transition into green, AI-powered information hubs.

Keywords

- Artificial Intelligence (AI)
- Green libraries
- AI driven Innovations
- Environmental sustainability

Applied Artificial Intelligence for Humanities Transformation and Digital Talent Development

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Abstract

Despite ethical dimensions, integration of artificial intelligence has profound impact and change in humans, governments and businesses worldwide. This research evaluates this digital revolution as change agents in transformation and nurturing of digital talent for future generations. Being sporty, inclusive and multidisciplinarity in nature, the objectives highlight perspectives of applied artificial intelligence as change agent across various sectors, practical applications of this digital innovation in diverse fields and industries, best practices to enhance sustainable and positive artificial intelligence integration for development of digital talent, and framework for artificial intelligence integration to empower and drive transformation. The research will employ scoping review based on PRISMA guidelines to ensure systematic evaluation of contemporary information and knowledge from digital databases. This comprehensive review will focus on journal articles and authoritative sources published in 2024 and 2025. Perspectives and insights on global best practices and frameworks are fundamental in adaptation of artificial intelligence as public good and valuable product. In addition, the research contributes to the growing body of literature on the rapid advancements and impactful development in artificial intelligence technology.

AI for a Sustainable Future Advancing Information, Communication, and Libraries for Innovation, Access, and Ethics across Disciplines

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Abstract

Artificial Intelligence (AI) is revolutionizing education and learning systems worldwide, offering transformative solutions to longstanding challenges. By leveraging data science and machine learning, AI powers adaptive learning platforms that tailor educational experiences to individual learners, enabling personalized content delivery that aligns with unique learning styles, paces, and needs. These technologies analyze vast amounts of educational data to identify patterns, predict learning outcomes, and provide actionable insights for educators. Machine learning algorithms drive intelligent tutoring systems, automate assessments, and optimize curriculum design, ensuring more effective and efficient learning processes. Additionally, AI plays a pivotal role in creating immersive virtual and augmented reality (VR/AR) environments, enhancing the visualization and understanding of complex scientific concepts. Through VR/AR, learners can interact with 3D models, simulate experiments, and explore abstract ideas in a tangible way, fostering deeper engagement and comprehension. AI also empowers learners across all disciplines, particularly in the social sciences, by enabling them to independently conduct advanced data analysis and visualization. Traditionally reliant on data analysts who may lack contextual understanding of social science problems, learners can now use AI-driven tools to analyze large datasets, identify trends, and generate visual representations that align with their research goals. This capability not only enhances their analytical skills but also ensures that insights are more relevant and actionable. However, the low uptake of AI in many education systems has hampered skills development, as traditional approaches often emphasize knowledge-based learning over practical, skills-oriented education. This gap leaves learners ill-prepared for a rapidly evolving job market that increasingly demands proficiency in AI, data literacy, and critical thinking. This paper will explore the profound impact of AI on education, highlighting its potential to create more adaptive, inclusive, and immersive learning environments while addressing the urgent need to shift from knowledge-based to skills-focused education.

Empowering Agriculture: The Role of GIS in Enhancing Extension Services for Sustainable Development in Nigeria

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Abstract

The integration of Geographic Information Systems (GIS) into agricultural extension services has transformed traditional approaches to knowledge dissemination and resource management in agriculture. GIS technology enables the collection, analysis, and visualization of spatial data, facilitating data-driven decision-making processes that enhance productivity and sustainability in agricultural practices. This paper explores the synergy between agricultural extension services and GIS, focusing on its applications in precision farming, resource mapping, pest control, and disaster management. By providing extension agents with spatial insights, GIS empowers farmers with location-specific recommendations, improving crop yields, reducing resource wastage, and promoting environmental conservation. Case studies from Nigeria demonstrate the effectiveness of GIS-enhanced extension services in addressing local agricultural challenges, such as soil erosion, pest infestations, and climate variability. This research advocates for increased investment in GIS training and infrastructure for agricultural extension professionals, highlighting its potential to bridge knowledge gaps and foster resilient farming systems. GIS-driven agricultural extension services represent a vital innovation for achieving food security, economic growth, and sustainable agricultural development in Nigeria and beyond.

Keywords

- Geographic Information Systems (GIS)
- Agricultural extension services,
- Precision
- Farming
- Sustainable agricultural development
- Food security

The Integration of AI in Records Management at National Social Security Fund – Uganda

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Abstract

The National Social Security Fund (NSSF) Uganda, mandated by the NSSF Act to provide social security services to employees in Uganda, has positioned itself as a leader in leveraging technology to enhance operations and customer service delivery. This paper explores NSSF's transformative journey of integrating artificial intelligence (AI) into its records management system. Beginning with the adoption of the Electronic Document and Records Management System (EDRMS), called Advanced Digital Archive (ADA), in 2018, the Fund has continuously innovated to streamline workflows, reduce turnaround times, and improve decision-making. The integration of ADA with the AI-powered platform DOXA has further optimized communication, collaboration, and information access. The paper highlights the benefits, challenges, and recommendations for improving this integration to ensure continued efficiency and compliance with regulatory requirements. The adoption of ADA has enhanced accessibility, streamlined workflows, reduced storage costs, and improved the decision-making process. The integration of DOXA, a collaborative communication platform with AI capabilities, has further enhanced the Fund's ability to manage and access member information, reducing turnaround times and increasing overall efficiency. The integration of these systems has not been without its challenges, including data migration, user adoption, and system integration. However, the Fund has been proactive in addressing these challenges and continues to explore ways to improve the system's functionality and user experience. The paper concludes with recommendations for further enhancing the integration of AI in records management, such as leveraging machine learning algorithms to automate routine tasks, improving data analytics to inform strategic decision-making, and exploring the use of natural language processing to enhance search and retrieval capabilities. Overall, NSSF Uganda's journey in integrating AI into its records management system serves as a valuable case study for other organizations seeking to harness the power of technology to improve operational efficiency and customer service delivery. The lessons learned and best practices shared in this paper can provide valuable insights for records management professionals and IT leaders alike

AI-Enhanced Knowledge Discovery in Libraries and Information Centers: Ethical and Innovative Practices for Sustainable Knowledge Systems

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[1,2,3]The Technical University of Kenya

Abstract

Artificial Intelligence (AI) is rapidly transforming knowledge discovery processes in libraries and information centers. However, there are legitimate ethical concerns like privacy, bias, and accountability. This study explores how AI can be leveraged to enhance knowledge discovery while ensuring ethical, innovative, and responsible practices for sustainable knowledge systems. The objectives guiding this study are: to explore the application of AI tools in enhancing knowledge discovery in libraries and information centers; to examine ethical challenges, including privacy, bias, and accountability, associated with AI integration in knowledge systems; to assess the role of AI in fostering interdisciplinary collaboration for sustainable knowledge systems; to propose innovative and responsible practices that enhance knowledge accessibility and usability. the study is guided by the Sociotechnical systems Theory and employs a qualitative approach using multiple case studies of selected libraries and information centers that have adopted AI-driven solutions. Data is collected through semi-structured interviews, document analysis, and observation. Empirical literature Artificial Intelligence (AI) is rapidly transforming knowledge discovery processes in libraries and information centers. However, there are legitimate ethical concerns like privacy, bias and accountability. This study explores how AI can be leveraged to enhance knowledge discovery while ensuring ethical, innovative, and responsible practices for sustainable knowledge systems. The objectives guiding this study are: to explore the application of AI tools in enhancing knowledge discovery in libraries and information centers; to examine ethical challenges, including privacy, bias, and accountability, associated with AI integration in knowledge systems; to assess the role of AI in fostering interdisciplinary collaboration for sustainable knowledge systems; to propose innovative and responsible AI practices that enhance knowledge accessibility and usability. The study is guided by the Sociotechnical Systems Theory, and employs a qualitative approach using multiple case studies of selected libraries and information centers that have adopted AI-driven solutions. Data is collected through semi-structured interviews, document analysis, and observation. Empirical literature review findings reveal that AI applications enhance knowledge accessibility and usability, fostering interdisciplinary collaboration. However, challenges related to ethical practices such as privacy and bias, are evident. To address these challenges, the study proposes a framework for responsible AI integration, emphasizing transparency, accountability, and inclusivity. The study concludes that for AI to sustainably contribute to knowledge systems, it must be implemented with ethical considerations at its core. This research provides valuable insights for library and information science professionals, AI developers, policymakers, and educators seeking to integrate AI responsibly. The findings contribute to the growing discourse on ethical AI practices and highlight the need for continuous evaluation and adaptation of AI tools to enhance knowledge discovery across diverse disciplines.

Applying artificial intelligence in police records

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Abstract

The rapid advancement of Information and Communication Technology (ICT) has significantly transformed law enforcement operations. However, traditional police record-keeping systems face numerous challenges, including inefficiencies in data retrieval, loss of critical information, data fragmentation, and risks associated with manual handling. These limitations hinder effective crime prevention, impacting public safety, justice delivery, and operational efficiency. Integrating Artificial Intelligence (AI) into police records management can revolutionize law enforcement by enhancing automation, improving data organization, and optimizing decision-making. AI-driven technologies such as Machine Learning, Natural Language Processing (NLP), Intelligent Automation, and Data Analytics offer innovative solutions to modernize police operations and improve service delivery. This study aims to explore how AI can be applied in police records management to improve operational efficiency, crime prevention, and service delivery. It seeks to assess current challenges in police records management, evaluate AI-driven solutions, and analyze ethical and legal concerns. To achieve these objectives, a combination of literature review, interviews, surveys and data-driven assessments will be conducted. Despite its potential benefits, integrating AI into police records management presents significant challenges. AI systems handling sensitive police records are vulnerable to data privacy and security risks, including cyber threats, hacking, and unauthorized access. Additionally, AI models trained on biased data may reinforce existing prejudices, leading to unfair profiling and discrimination. Financial constraints pose another challenge, as AI implementation requires substantial investment in infrastructure, training, and maintenance. Resistance to change among law enforcement personnel due to a lack of technical expertise. Moreover, legal and ethical considerations regarding AI accountability, transparency, and regulatory compliance must be addressed to ensure responsible implementation. To overcome these challenges and ensure successful AI integration, strategic measures must be adopted. Strengthening AI governance through clear legal and ethical frameworks, independent oversight bodies, and AI auditing mechanisms will ensure fairness, transparency, and accountability. Enhancing data security through advanced encryption techniques. Stakeholder engagement, including collaboration with government agencies, human rights organizations, and the public, is essential to ensure AI applications align with societal values and build public trust. To ensure the successful adoption of AI in police records management, law enforcement agencies must establish AI governance policies, implement strong data security measures, and promote AI training programs for officers. Engaging stakeholders such as legal experts, civil rights organizations, and AI specialists will help ensure AI adoption aligns with ethical and legal standards. By adopting best practices, investing in AI governance, and ensuring transparency in AI-driven decision-making, law enforcement agencies can create a more effective, secure, and technologically advanced policing system. This study provides a structured roadmap for AI adoption in police records management, contributing to a safer and more efficient law enforcement ecosystem.

Harnessing Information Policies and Artificial Intelligence for Africa's Sustainable Development: A Multi-Sectoral Analysis with Case Studies from Kenya

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Abstract

Information policies and artificial intelligence (AI) are transforming Africa's development landscape, offering innovative solutions to longstanding challenges. This study examines how African nations, with a focus on Kenya, can effectively integrate AI with information policies to drive sustainable growth across key sectors. Through a mixed-methods approach combining policy analysis, case studies, and stakeholder interviews, we evaluate successful AI implementations in agriculture, healthcare, and governance, while identifying critical barriers including infrastructure gaps, data limitations, and ethical concerns. Our findings reveal that Kenya's emerging AI ecosystem - exemplified by initiatives like AI-powered traffic management and digital health systems - demonstrates significant potential when supported by robust information policies. However, uneven implementation and regulatory gaps persist. The paper proposes a comprehensive policy framework emphasizing four key pillars: strengthening data governance, investing in digital infrastructure, developing ethical AI guidelines, and fostering multi-stakeholder collaboration. These recommendations aim to create an enabling environment for inclusive, sustainable AI adoption across Africa. The study contributes to ongoing discourse on digital transformation in developing economies by providing actionable insights for policymakers, technologists, and development practitioners seeking to harness AI's potential while mitigating risks. Ultimately, we argue that strategic alignment between information policies and AI innovation can position Africa as a global leader in equitable technological advancement.

Keywords

- Artificial Intelligence
- Information policy
- Digital transformation
- Sustainable development
- Kenya
- Africa

Predicting Household access to Electricity in Nigeria using Logistic Regression Analysis on Socio demographic and Socioeconomic variables

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Abstract

This study explores the application of Logistic Regression Analysis, a machine learning tool, in predicting household access to electricity in Nigeria based on various socioeconomic and demographic factors. Using data from the General Household Survey-Panel (GHS-Panel), the research examines key variables such as geopolitical zones, state, sector (urban/rural), house type, ownership status, rent, and property value. The study applies logistic regression to assess the predictive power of these variables in determining electricity access from all available sources. The study combines Logistic Regression models for demographic variables only, economic variables only and the combination of demographics and economics variables. Results demonstrate that the combined demographic and economic model yields the highest accuracy (71%), highlighting the effectiveness of logistic regression in modeling electricity accessibility. These findings provide a data-driven approach for policymakers to enhance electricity distribution and improve energy access across Nigerian households.

Guidance and Counselling Service and School Infrastructure as Panacea for Informed Career Decision among Undergraduates in Nigeria

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Abstract

The study examines the role of guidance and counselling services and school infrastructure as critical factors influencing informed career decision-making among undergraduates in Nigeria. With the increasing complexity of career choices in a rapidly evolving global economy, the availability of adequate support systems becomes imperative for students to make well-informed decisions. This research explores the interplay between functional guidance services, conducive learning environments, and their combined impact on career awareness, exploration, and decision-making processes. Data were collected from undergraduates across Nigerian universities through a structured questionnaire and analyzed in other to establish the relationships between variables. A correlational research design and two set of questionnaires was used for the study. 1,200 form the population of the study, 373 undergraduates constitute the sample size of the study. The questionnaires, on counselling and school infrastructure has 15 items with reliability coefficient (α=.899), The second questionnaire is career decision-making self-efficacy with 25 items with reliability coefficient (α=.901), were disseminated to the respondents. The findings reveal that effective guidance and counselling services significantly influence students' ability to identify and pursue suitable career paths. Additionally, well-developed school infrastructure such as libraries, ICT facilities, and learning significantly influence students career decision making. The combined influence of these factors underscores their importance in empowering students to make informed and confident career choices. The study concludes by emphasizing the need for policymakers, educators, and institutional administrators to invest in robust guidance programs and quality infrastructure. Recommendations include training professional counsellors, and enhancing infrastructural development to create environments conducive to learning and career planning. By addressing these factors, Nigerian universities can better prepare students to meet the demands of the modern workforce and achieve long-term career success.

Keywords

- Guidance and Counselling
- school infrastructure
- Career Choice

The Use of Artificial Intelligence in the Transfer of Symbolic Tacit Indigenous Knowledge of a Bull as Intangible Cultural Heritage among the Isukha Community, Kenya

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Abstract

Tacit Indigenous Knowledge (TIK) forms part of peoples' history and cultural legacy, which is typically transmitted orally from elders to younger generations in the community. Sources of TIK include spiritual beliefs and ceremonies, traditional teachings of elders, stories and lived experiences. TIK hinges on rational interpretations and understandings of the material, social, and spiritual realms. It includes people's experiences, their natural and human-built in environments concepts, beliefs and perceptions. TIK is embedded in the Intangible Cultural Heritage (ICH). It requires interpretation of the processes, rituals, experiences, and practices unique to indigenous communities. New technologies such as Bit AI, ChatGPT, Elicit, Google Scholar, Julius, Research Rabbit and Scite, Scopus, Zotero carries the risk of cultural erosion where traditional rituals, ceremonies, and daily practices that are crucial for the transfer of tacit knowledge are neglected or forgotten. These AI tools support joint research projects more efficient and productive as they help organise and manage shared data and research findings, and collaborations. Bulls play a central role in religious rituals and social ceremonies among indigenous cultures around the world. The ownership of bulls is assumed to be a status symbol and a measure of economic well-being symbolizing wealth and prosperity. TIK of a bull in Isukha community is a critical aspect of ICH, however, it stands a chance of being eroded considering the present practices. The aim of this study is to assess the use of selected AI tools in the transfer of symbolic tacit indigenous knowledge of a bull as ICH among the Isukha community, Kenya. The study adopts the Knowledge transfer model that today spans organizational efficiency, training, competitive advantage, cultural integration, technological advancement, and education. The study will be guided by a descriptive qualitative research approach. The data will be collected through interviews with community knowledge holders and content analysis focusing on observable interactions involving the bull such as: rituals, metaphors, songs, agricultural and healing practices. The setting of this study is the Isukha community in Kakamega East Sub County, Kenya with a population of 111,743. This paper will contribute to ethical considerations of AI in IK creation as ICH for value, cultural significance and rituals including privacy, bias, and accountability, to encourage responsible practices aligned with societal and SDG goals No.11 and 8.

Keywords

- Artificial Intelligence
- Bull
- Isukha Community
- Kenya
- Knowledge Transfer Processes
- Tacit Indigenous Knowledge

Integrating Basic Artificial Intelligence Literacy into Media and Information Literacy Programs in Higher Education: A Framework for Librarians and Educators

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Abstract

This paper addresses the question of how to introduce basic artificial intelligence (AI) literacy skills to learners in higher education. It proposes that a feasible approach is to integrate AI literacy components into existing media and information literacy (MIL) programs. The paper discusses elements of intersection between the two literacies, such as search techniques, evaluation, and responsible use of information. The author posits the MIL curriculum needs to be updated by enhancing the intersecting elements and adding new concepts such as AI algorithm literacy, data literacy, AI ethics, and limitations of AI technologies. The author argues that libraries are best poised to take on the role of delivering basic AI literacy. To this end, MIL frameworks need to be reviewed, and librarians will be required to obtain additional skills through AI courses, workshops, and participation in communities of practice. Pioneering libraries such as the FIU Libraries (comprising the Green Library and Hubert Library) and Massachusetts Library Systems are demonstrating that libraries have the capacity to deliver basic AI literacy to higher education learners. The author has analyzed existing attempts at mapping AI literacy to the ACRL Framework for Information Literacy for Higher Education and built on these initiatives by mapping suggested new AI literacy-related knowledge practices and dispositions to the relevant frames of the framework. The paper concludes by making a clarion call to librarians to rise to the occasion and revamp existing MIL programs to include basic AI literacy.