


Chapter 8


Students Data Security Metrics and the Ethical Implication for Artificial Intelligence Deployment

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ABSTRACT

This chapter explores the deployment of artificial intelligence (AI) technologies within the context of data security, focusing on the perceptions and engagement metrics of Nigerian university students. Utilizing a quantitative methodology, the research employed data analytics gathered from the X (formerly Twitter) platform, complemented by screen recordings. A total of 100 responses were collected, with data cleaning performed prior to analysis using SPSS and Excel as .csv data compiler. The chapter utilized linear regression and descriptive statistics to analyse engagement metrics, revealing trends in students' awareness and understanding of data security including the ethical deployment of AI. Findings indicate a significant increase in student engagement in 2022 and 2024, reflecting heightened discourse around AI ethics and data security issues. The results underscore the necessity for targeted educational initiatives that address the growing concerns among students regarding the implications of AI technologies, contributing to the broader dialogue on responsible AI deployment.

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INTRODUCTION

In recent years, artificial intelligence (AI) has emerged as a transformative force across various sectors, revolutionizing the way organizations operate, make decisions, and interact with customers. The deployment of AI technologies has the potential to enhance efficiency, drive innovation, and create new opportunities for growth. However, as the integration of AI into everyday processes becomes more prevalent, it also raises significant ethical, societal, and operational considerations. This dynamic landscape necessitates a comprehensive understanding of the implications of AI deployment, particularly concerning data security, privacy, and the ethical use of technology (Radanliev, Santos, Brandon-Jones & Joinson, 2024).

As organizations increasingly rely on AI to process vast amounts of data and automate complex tasks, the need for responsible and ethical deployment practices becomes paramount. Issues related to data privacy, algorithmic bias, transparency, and accountability are at the forefront of discussions surrounding AI technologies. The successful integration of AI requires not only advanced technical capabilities but also a commitment to ethical principles and a recognition of the broader societal impacts of these technologies (Fedele, Punzi & Tramacere, 2024).

This study focuses on the deployment of AI in the context of data security, particularly among Nigerian university students, who are navigating an increasingly digitized and data-driven world. By examining the engagement metrics related to data security and AI, this research aims to shed light on the factors influencing student awareness and understanding of these critical issues. Ultimately, this investigation seeks to contribute to the discourse on responsible AI deployment, highlighting the ethical implications and the necessity for informed practices that prioritize the well-being of individuals and society as a whole (Eden, Chisom & Adeniyi, 2024).

Data are set of raw information that could be gathered and processed further for more meaningful purposes. However, data security is the process of ensuring that set of raw information are safeguarded from data breach. Data currently in this 21st century has new genre occurring freely as analytics on social networks like X, Facebook and Instagram and they represent the record of student activities on the internet. The student's data security metrics connote the values imbued in learner's online activities in the light of artificial intelligence. This study is an investigation of student's data security breach and the level of ethical implications it brings to Nigeria university education. For instance, artificial intelligence (AI) is currently a big business from Machine Learning to Big Data analytics. The web 2.0 and the 5th industrial revolution is being harnessed for educational benefits all over the world with increased concern for students' safety when using the artificial intelligence applications. Sometimes, students leave behind digital footprints that are hacked for

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