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Improving Cybersecurity in Project Management with Machine Learning: Using a Multi-layered Framework Approach

Eboigbe Nosakhare Sam

National Open University of Nigeria (NOUN), Abuja, Nigeria

Abstract

This research work provides an integrated framework for the application of machine learning techniques in enhancing project management cyber security. The emphasis of this research work is on creation of a layered model which uses machine learning algorithms to enhance decision making and cyber resilience within project settings.

The research design includes systematic review of the literature in order to discover relevant gaps and develop a theoretical framework, then the second phase comprises collection of data from cyber security, projects case studies and other relevant areas of machine learning and its application. Various tasks such as anomaly detection, predictive analytics, and risk assessment for machine learning models are developed and trained.

The Results display the performance of the models, and their applications within the context of multi-layered nerds' technology frameworks across several case studies. In this evaluation, case studies of effectiveness demonstrate the importance of the framework in improving security measures, and also the relevance this approach can have on project management methods.

Among the key conclusions are, the role of machine learning in project management will aid in the escalation of attacks detection, swift reaction, and setting automatic scenarios for the assessment of risks. The practical contribution of this research applies to recommend for practical recommendations for practitioners, policymakers, and researchers aiming to strengthen cybersecurity protocols within project environments.

Overall, this paper contributes a robust methodology and actionable insights for implementing a multi-layered framework that combines machine learning and project management principles to fortify cybersecurity measures effectively.

Keywords: Cybersecurity Enhancement, Machine Learning Integration, Anomaly Detection, Predictive Analytics, Proactive Threat Detection