Ministry of Higher Education and Scientific Research

University of Babylon

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Department of Information Security

Study: Morning

A Cloud Based Approach for Fraud Detection

A Graduate Project Submitted to the department of Information Security of the College of Information Technology, University of Babylon, in Partial Fulfillment of the Requirements for the Bachelor's degree in the Information Security of Information Technology.

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Abstract

The size of online financial information is exponential. A remarkable number of financial transactions are conducted every day. Financial data has a very sensitive nature; therefore, any security breach may lead to significant money loss and compromise the reputation of a business. Various actions are employed to tackle the unauthorized access to financial data and countermeasure fraudulent attempts. Accordingly, this project studied the advantages of applying cloud-based machine learning (ML) and deep learning (DL) approaches for detecting this kind of breach. Credit cards data has been analyzed to develop a fraud detection model. Various algorithms, Gradient Boosting Classification (GBC), Extreme Gradient Boosting (XGB), Random Forest (RF) Algorithm, and Artificial Neural Network (ANN), are employed. Overall an accuracy ranging from 96.2% to 99.9% has been obtained.