



**Ministry of Higher Education and
Scientific Research**

University of Babylon

Information technology collage

Information Security Department

Study: morning



Project Title:

**Analyze and mitigate network based attack using
machine learning techniques**

**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 use of machine learning in cyber security has become increasingly popular in recent years due to its potential to identify and mitigate cyber threats. We explore the application of machine learning algorithms to detect cyber-attacks in network traffic data. We then trained and tuned two models: A Random Forest and a KNN. Our results show that both models performed exceptionally, achieving 99.5% accuracy. The Random Forest model achieved these results without any parameter tuning.

In conclusion, our findings demonstrate the potential of machine learning in detecting cyber-attacks in network traffic data. The high accuracy achieved by our models indicates that machine learning algorithms can effectively detect cyber threats in real-time effect. This has important implications for developing more robust and reliable cybersecurity systems in the future.