Credit Card Fraud Detection Using AI

Internship. This research internship will take place under the supervision of Dr. Abdul Wahid, in the Department of Computer Science and Engineering, at Indian Institute of Information Technology Dharwad, Ittigatti Rd, near Sattur Colony, Karnataka 580009. This internship presents an exciting opportunity to contribute to the development of cutting-edge fraud detection algorithms while gaining practical experience in the financial technology sector. The intended duration is 2 months, with a start date from June 1, 2024.

Background: Credit card fraud has become a serious issue in the digital world, as most financial transactions are handled electronically. As more people and organizations use digital payment systems, the potential for fraudulent activity has increased considerably. Traditional credit card fraud detection methods often rely on rule-based systems that struggle to keep pace with the rapidly evolving tactics employed by fraudsters.

This project aims to develop a novel system for detecting credit card fraud using advanced artificial intelligence (AI) techniques to address this problem. By leveraging AI algorithms, we aim to enhance fraud detection capabilities and provide real-time protection against fraudulent transactions.

The project's background revolves around the idea that AI, coupled with the analysis of large volumes of transaction data, can enable the identification of patterns and suspicious behavior associated with credit card fraud. By developing a novel approach, our goal is to create a system that can learn from historical data, adapt to evolving fraud techniques, and identify fraudulent activities as they occur.

Objective: The primary objective of this internship is to develop and implement an effective credit card fraud detection system leveraging Artificial Intelligence (AI) techniques. The project aims to address the following key objectives:

Objectives:
- Research and analyze existing credit card fraud detection methods and algorithms.
- Develop and implement AI-based models for fraud detection
- Analyze data related to credit card transactions.
- Train and optimize models to effectively identify fraudulent transactions while minimizing false positives.
- Conduct experiments and evaluations to assess the performance and accuracy of the developed fraud detection system.
- Present progress to me during regular meetings.

References:
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3. Baratzadeh, Fereshteh, and Seyed MH Hasheminejad. "Customer Behavior Analysis to Improve Detection of Fraudulent Transactions using Deep Learning." Journal of AI and Data Mining 10, no. 1 (2022): 87-101.

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