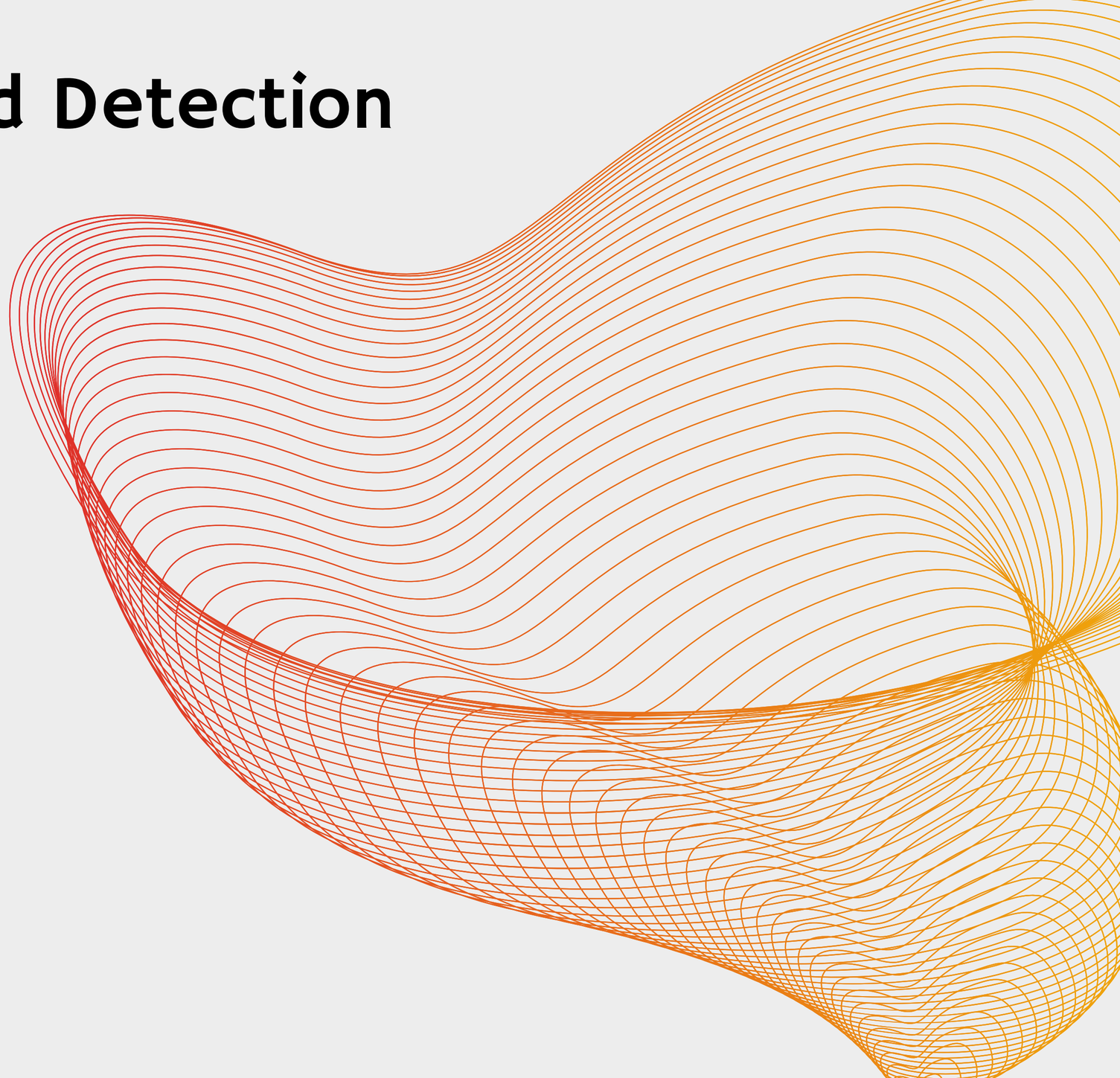
Credit Card Fraud Detection



Created by Team:
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Introduction

Losses related to credit card fraud will grow to $43 billion within five years and climb to $408.5 billion globally within the next decade, according to a recent Nilson Report — meaning that credit card fraud detection has become more important than ever.

The sting of these rising costs will be felt by all parties within the payment lifecycle: from banks and credit card companies who foot the bill of such fraud, to the consumers who pay higher fees or receive lower credit scores, to merchants and small businesses who are slapped with chargeback fees.

With digital crime and online fraud of all kinds on the rise, it’s more important than ever for organizations to take firm and clear steps to prevent payment card fraud through advanced technology and strong security measures.

Dataset

The dataset contains transactions made by European credit cardholders credit cards in September 2013. This dataset presents transactions that occurred in two days, where we have 492 frauds out of 284,807 transactions. The dataset is highly unbalanced, the positive class (frauds) accounts for 0.172% of all transactions.

The dataset has been collected and analyzed during a research collaboration between Worldline and the Machine Learning Group (http://mlg.ulb.ac.be) of ULB (Université Libre de Bruxelles) on big data mining and fraud detection.

Exploratory Data Analysis

In this stage, we will examine the data to identify any patterns, trends and relationships between the variables. It will help us analyze the data and extract insights that can be used to make decisions.

Data Visualization will give us a clear idea of what the data means by giving it visual context.

Data Preprocessing

Preprocessing is a crucial step in any machine learning project, including credit card fraud detection. It involves transforming and cleaning the raw data to make it suitable for training machine learning models. We Used some common preprocessing steps for credit card fraud detection like:

- Data Cleaning
- Feature Scaling
- Anomaly Detection

Development and Evaluation

Development and evaluation are important stages in the process of building a credit card fraud detection system. These stages involve developing machine learning models and assessing their performance to ensure accurate and reliable fraud detection. Here are the key steps involved in development and evaluation:

- Model Selection
- Training and Testing
- Model Development
- Performance Evaluation

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Thank You

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