

Credit Card Fraud Detection and Classification

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Project goal:

To build a robust predictive model capable of identifying rare fraudulent credit card transactions.

Fraud magnitude: Fraudulent transactions are **significantly larger** than genuine transactions, averaging approximately \$122.21 compared to genuine average of \$88.00. This suggests fraudsters maximize the value of each attempt.

Temporal risk: The risk of fraud is not uniform across the day. Analysis shows notable **spikes in the fraud rate during off-peak hours**, which suggests vulnerabilities when monitoring systems may rely less on human oversight.

Result to Date:

Initial Explanatory Data Analysis (EDA) successfully identified **three high-impact risk factors** for classification.

Average Fraudulent Amount

\$122.21

Average Genuine Amount

\$88.29

Average Fraud by Hour of Day

