IEEE-CIS Fraud Detection Challenge

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***Abstract*—abstract: This report evaluates the performance...**

I. The Fraud-Detection Pipeline

...

1) ...
2) ...
3) ...

II. Exploratory Data Analysis

A. Data Structure Inspection

1) types
2) missing values
3) target balance

B. Statistical Summary & Visualizations

Fig. 1. some image here

TABLE I
SOME STATS...

Metric	Value
one	...
two (%)	...
three	...
four	...

C. Findings & Hypotheses

...

...

III. Data Pre-Processing & Cleaning

A. Imputation & Removal

1) ...
2) ...
3) ...

B. Normalize & Scale Features

1) ...
2) ...
3) ...

C. Encoding Categorical Features

1) ...
2) ...
3) ...

IV. Models

intro to the models used

A. Support Vector Machine (SVM) Classifier

experiment hyperparameters (C, gamma, kernel etc)
cross-validation and validation splits to evaluate performance
results using different hyperparameters
training and test metrics: confusion matrix, precision, recall, F1-score, an

B. Decision Tree Classifier

experiment hyperparameters (max depth, min samples split, criterion)
cross-validation and validation splits to evaluate performance
results using different hyperparameters
training and test metrics: confusion matrix, precision, recall, F1-score, an

V. Model Comparison

TABLE II
SOME STATS...

Metric	SVM	Decision Tree
one	...	...
two (%)	...	...
three	...	...
four	...	...

a) discuss similarities & differences. use table:

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