Credit Card Fraud Detection

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Abstract:

The goal of the project is to create a model to detect credit card fraudulent transactions by using some machine learning classification models. All supervised machine learning algorithms for classification problems work here, e.g., random forest, logistic regression, etc.

Data:

The dataset contains transactions made by credit cards in September 2013 by European cardholders. (It was obtained from Kaggle) 9541 datapoints and 30 features, all datapoints are numerical
This dataset presents transactions that occurred in two days, where we have 492 frauds out of 9541 transactions

Design:

I have trained multiple models which are:
- logistic regression
- Random forest
- Decision tree
- SVM

And accuracy results were best using logistic regression

Train_score: 99.2%
Test_score: 98.9%

Tools:
• **Enviroment:** Jupyter Notebook
• **Programming language:** open source python libraries (Pandas, Numby, Seaborn, Sklearn ,Matplotlib)

Communication:

Confusion Matrix:

	True Class	
	Positive	Negative
Predicted Class Positive	TP 936	FP 0
Predicted Class Negative	FN 11	TN 57