

Project Title: Detecting credit fraud

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Description of the Problem: Use machine learning to analyze how different models perform with a limited amount of features to use.

What has been done and how this is different:

Previously, there has been work done in order to spot credit fraud using machine learning due to the increase of online purchases over the internet. Specifically what I have found so far are papers published in order to identify the best algorithm to use. This is different since it will compare the results of these papers to see which one works best with data sets that have less information available.

Preliminary Plan:

First, I need to analyze the algorithms used in each paper and see the strengths and weakness of each model. After this, I will use train each model to detect credit fraud using the same data set, then gradually decrease the number of features available to compare the accuracy each model with decreasing amounts of data available. After this, I will analyze the advantages and benefits of each model and come to a conclusion of which model performs the best with a small amount of data to work from.

References:

<https://www.sciencedirect.com/science/article/pii/S1877050918309347>

<https://pdfs.semanticscholar.org/6f4a/a57eb9335f6e2658c78a7a2264e779a09307.pdf>

<https://www.kaggle.com/mlg-ulb/creditcardfraud/discussion/81167>

<https://arxiv.org/abs/1904.10604>