Project Proposal

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Domain Background

Machine learning has proved to be a powerful tool in solving a lot of the world's problems. In recent years we witnessed the rise of blockchain technology and cryptocurrencies. For this project, the interest and intent is to use machine learning in this context, and predict the price of crypto-currencies.

Problem Statement

The world of trading has always been very volatile, and the same applies to crypto-trading. The problem to solve is to predict the daily average price of bitcoin price.

Datasets and Inputs

The data used for this project will come from Coinmarketcap python API.

Solution Statement

A proposed solution to this problem is to construct a deep learning model with bitcoin trading information as input.

Benchmark Model

NA

Evaluation Metrics

Percentage difference can be used as the primary evaluation metrics.

Project Design

Python will extract bitcoin exchange data from Coinmarketcap, and the data will be scaled and put into a neural network model for price prediction. Some example codes are as follows:

```
# Scale data
from sklearn.preprocessing import MinMaxScaler
scaler = MinMaxScaler()
scaler.fit(data_train)
```

```
# Cost function
mse = tf.reduce_mean(tf.squared_difference(out, Y))
```

```
# Optimizer
opt = tf.train.AdamOptimizer().minimize(mse)
```

Presentation

The final output will be in the form of a plotly dashboard.