Project 2 - Machine Learning

Members:

1. Mehrdad Akhlaghi
2. Sargun Singh
3. Tito Kumapayi
4. Cindy Chen

Scope: For this project, our group has decided to develop a Cryptocurrency Advisory Bot, which will use machine learning technology models such as:

* Neural Network
  + We have choosen neural networks as we believe
    - it has higher capacity and output
    - they are versatile
    - it can improve accuracy though multiple training and testing process.
    - detect complex nonlinear relationships between dependent and independent variables, ability to detect all possible interactions between predictor variables, and the availability of multiple training
    - Team Put any other reasons that you believe neural networks will a good fit

This advisory bot will indicate the following signals:

* Buy,
* Sell
* Hold

Indicators:

* Simple Moving day Averages (SMA) (Long and Short)
  + SMA is a great option for our indicator as it uses both long and short term moving average, which can be very helpful in understanding a cryptocurrency trajectory, as well entry and exit.
* Fear and greed index (This is through an API. The F&G index can provide a better vizulization on human/market emotions. When paired with SMA, we can get much better understanding when to sell, buy or hold. )
* Neural Networks-Deep Learning (for back testing)
* Bollinger Bands
  + It helps determine whether prices are high or low on a relative basis. Bollinger Bands are separated into 2 bands, upper and lower bands with SMA being utilized together.
* Relative Strength Index (RSI)
  + It is useful in to predict the price behavior of a cryptocurrency, validate trends and trend reversals, providing short-term traders with buy, hold and sell signals.
* Team Please provide any other indicators that you will think it will be useful.

Sources for Data:

* Coin Geko
* Coin Marketcap
* Fear and Greed Index API+