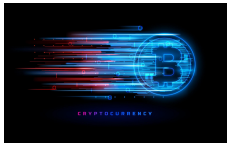
Created by Charlie Burd, Emmanuel Martinez & George Quintanilla



INTRODUCTION

Background

- Cryptocurrencies are digital assets used for transactions and for investment purposes around the world. The largest currency, Bitcoin, has a market cap of $1.1 trillion USD.
- Trading Bitcoin provides an opportunity for profit, just like trading stocks. Machine learning models can help predict the price of Bitcoin, to a degree of accuracy, and are being incorporated into trading strategies.

Purpose

- The purpose of this study is to find out with what accuracy the price of the top 10 most common cryptocurrencies can be predicted using machine learning methods.

Goal

- The goal of this project is to implement a machine learning model that can predict the top 10 most common cryptocurrencies price 30 days into the future. The model will indicate if these coins should be bought or sold depending on the current price.

Created by Charlie Burd, Emmanuel Martinez & George Quintanilla

PREDICTION ANALYSIS

Develop a cryptocurrency search system with comparative technical analysis of 30 days forecast for a day-trader to utilize.

Define Threshold:

- Resistance level – daily highest price
- Support level – daily lowest price

If Predicted Bitcoin Price is above threshold ’Buy’

If Predicted Bitcoin Price is below threshold ‘Sell’

Created by Charlie Burd, Emmanuel Martinez & George Quintanilla

DATA COLLECTION

Machine Learning Data

- **Data Source**: Yahoo Live Finance Data
- **ETL**: Transformed by dropping N/A's. Determined "weighted price" would be our x variable
- **Cleaned Data**: minute-over-minute cryptocurrency pricing for 2020

Cryptocurrency Analysis Data

- **Data Source**: Facebook Prophet
- **ETL**: Data was stored and called from AWS S3 bucket. It provided the 50 most popular currencies .
- **Cleaned Data**: day-over-day pricing for the Top 5 currencies for 2011-2020

Created by Charlie Burd, Emmanuel Martinez & George Quintanilla

Machine Learning

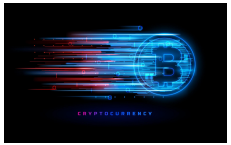
MACHINE LEARNING MODEL

Support Vector Machine ('SVM'):

- Method called in Python using the *Sklearn* library
- SVM are a set of supervised learning methods used for classificationa, regression and outliers detection.
- Advantages are effective in high dimensional spaces and uses a subset of training points in the decision function
- Disadvantages are if there are more features than samples the model can overfit and it does not directly provide probability estimates

Created by Charlie Burd, Emmanuel Martinez & George Quintanilla

Dashboard

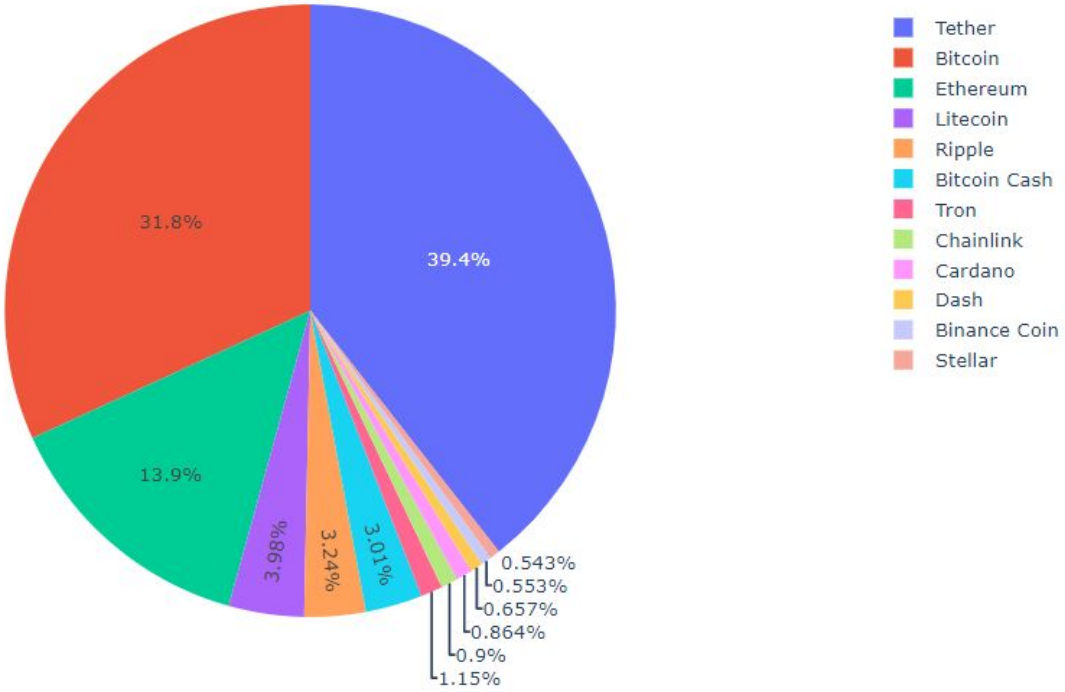


DATA ANALYSIS

- Using Facebook Prophet data source and Colab notebooks, our data was cleaned and then used to create a series of graphs
- These graphs help visualize the cryptocurrency market and narrow our analysis down to the top 5 most commonly traded coins by volume
- Trends and predictions were created to outline a template for our dashboard

Created by Charlie Burd, Emmanuel Martinez & George Quintanilla

CRYPTOCURRENCIES VOLUME

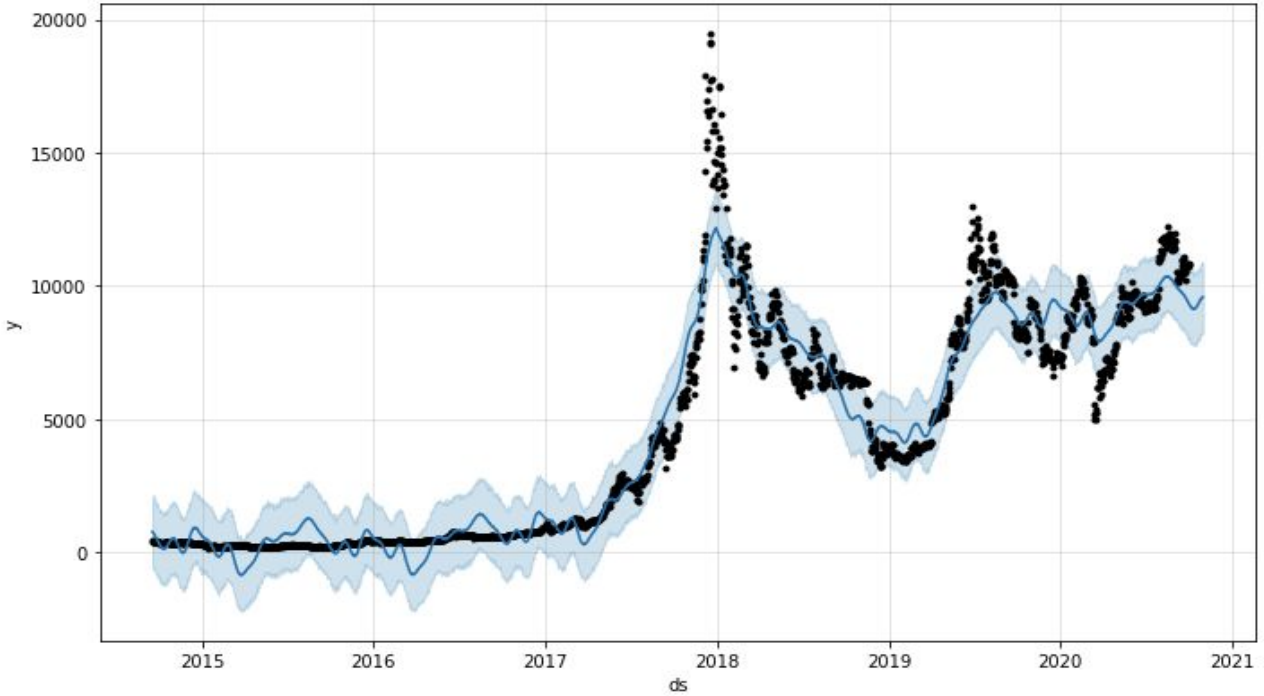


3/25/2021

Created by Charlie Burd, Emmanuel Martinez & George Quintanilla

BITCOIN

30 days prediction

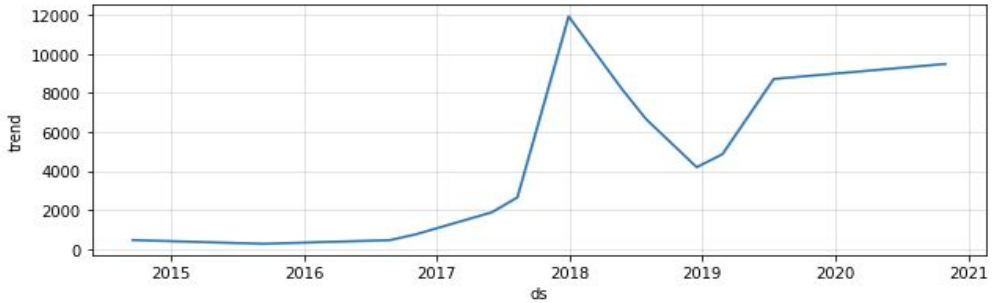


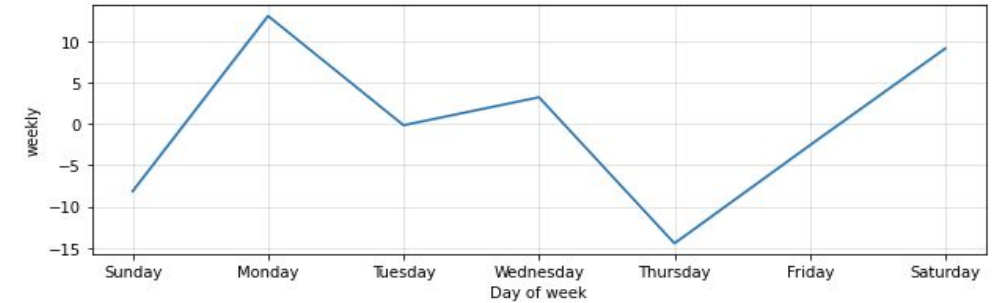
3/25/2021

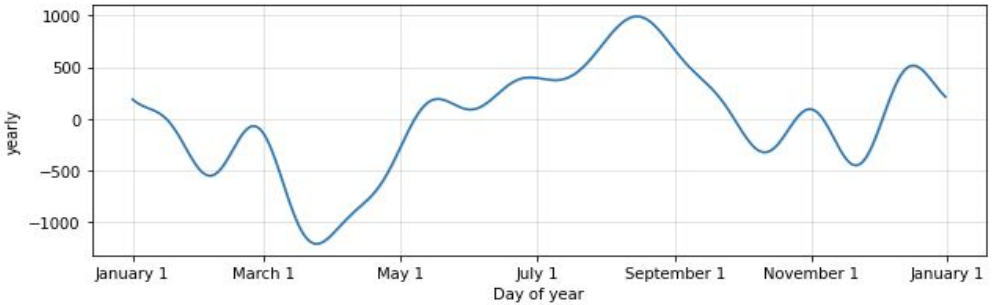
Created by Charlie Burd, Emmanuel Martinez &
George Quintanilla

BITCOIN TRENDS

30 days prediction







3/25/2021

Created by Charlie Burd, Emmanuel Martinez &
George Quintanilla

Questions?