2nd Capstone project proposal

Title: **“Cryptocurrency stock market prices prediction”**

1. **The Problem:**

Cryptocurrencies are forms of digital currency where encryption protocols are used to secure different transactions, and to secure the creation of new units and transfer of funds. One of the most known cryptocurrency assets, and also the first to be created, is Bitcoin. What is remarkable about Bitcoin is the explosive increase in its valued price in the last year. Given this, there might be a growing interest in developing a model able to predict future prices for Bitcoin and other cryptocurrencies.

1. **Who is the client?**

FBS is an online forex broker company that offers Bitcoin trading to its customers. In order to do so, FBS requires a predictive model able to predict future Bitcoin stock prices, which are used to make appropriate decision regarding trading, thus maximizing the profit for its customers

higher the accuracy a model in predicting future prices, the higher the amount of money that the client will be able to make.

**3. Where can the data be obtained?**

The data set that I plan to use, from the “Coin metrics” website (<https://coinmetrics.io/data-downloads/>). There, one can find daily cryptocurrency data and download it in CSV format.

1. **What will the approach be?**

Once the data has been acquired, I plan to perform some exploratory data analysis. In particular, I think it would be useful to explore the existence of temporal autocorrelation in the prices fluctuation, as well as periodicity, which could be studied with Fourier transform analysis. It would also be interesting to carry out, for example, Twitter sentiment analysis to correlate people’s mood with variability of crypto currencies prices. In order to perform prices prediction, I plan to use methods such as LSTM neural networks or ARCH, which are commonly used in stock market predictions.

**5. What are the deliverables?**

- A final project report

- Power point slides

- Code