CSX433.3 Python for Data Analysis and Scientific Computing

CSX433.7 Machine Learning with Tensorflow

Final Project -- Bitcoin Cryptocurrency Price Prediction using RNN, LSTM with Tensorflow

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https://github.com/alisonjing/CSX433.7-ML-with-Tensorflow

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The purpose of this project is to create a basic economic prediction model to estimate the future trend of bitcoin. The presentation will include functions to input bitcoin purchases at different prices from hour to hour, day to day, month to month and year to year. The data is loaded in xlsx text file format with different parameters such as purchase dates, purchase prices, open prices, high prices, low prices, purchase volume, purchase volume from, purchase volume to, time series and percent changes of price during a period of time.

We plan to analyze the bitcoin data looking at low and highs prices per day, month, and year using NumPy arrays, Matplotlib, and Scipy. We will use these libraries to analyzed the data to train our models with analytical tools such as Linear Regression, Time Series, Machine Learning (Long Short Term Memory (LSTM)) and Tensorflow. We will test our models using these tools to make prediction for the future trends of bitcoin.

Data Source:

https://www.investing.com/crypto/bitcoin/historical-data

https://www.cryptodatadownload.com/index.html

The code was created in Anaconda Jupyter Notebook enviroment(version 5.0.0)

The following modules/packages are required, and can be installed using pip:

numpy

scipy

datetime

pandas

pandas-datareader

matplotlib

matplotlib.pyplot

pylab

sklearn

statsmodels

seaborn

tensorflow

kera

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