

Technical Report

Course Number: CS 4982

Progress Report I

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## Progress Report

For the period of Wednesday September 29 to Thursday October 7 I had the following goals I wanted to meet: first, I wanted to make sure that I had the necessary Python environments and packages that are needed for data science and machine learning installed and configured correctly. I went back to a before taken course CS 4795 (Intro to AI) and installed the same tools that I had used before such as Anaconda Navigator; Jupyter Notebook; Tensor Flow and Keras. Secondly, I wanted to get my dataset, to do this I took advantage of Yahoo Finance's Historical Data feature (<https://finance.yahoo.com/quote/BB/history?p=BB>); this tool allows me to download historical financial data starting at the beginning of Black Berry (February 4 1999) up until September 27 2021. These data points were recorded daily. Some variables contained in the dataset are the opening price; highest price; lowest price; closing price; adjusted closing price; and volume. The last thing that I wanted to work on for this period was starting to get an understanding of time series data; the models I want to use; some tutorials of similar work done and the theory behind the thing. For this part all I have done is collect some articles and tutorials, in the following days I plan on going deeper into the theory and reading as much as I can. For the next progress report I plan on having finished the research, have an understanding of the theory behind the models, plotting the data in python; use some classical methods to explore the dataset some and possibly implementing one of the models and recording the estimation of the variables for September 28 2021, the error and how much time it takes for the model to be created. This should hopefully take me no more than 26 hours to complete this step which should put me back in line with the original schedule in the proposal. For the week of October 7 to October 14, I did not get too much accomplished just mostly collecting articles and papers to read over for the next week.

### Current Time Spent:

Description	Time Spent	Total Time Spent
Technology Setup	1 Hour	1 Hour
Data Collection	1 Hour	2 Hours
Exploring Dataset	1 Hour	3 Hours
Research	4 Hours	7 Hours