**Time Series Stock Analysis**

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**(Preliminary DRAFT – Work in progress)**

**Background**

Participating in or trading stocks in the stock market is a decision-based activity that relies heavily on current performance information and the prediction of future stock performance. Data is compiled daily for all active trading sessions Monday through Friday daily and yearly basis. Collected data consists of Opening Price, Lowest Price, Highest Price, Closing Price, Trading Volume and Stock Name.

**Objective**

The objective is to demonstrate the application of every key aspect of data analysis techniques working with Time Series Stock Data collected over a period of five years. The analysis provides answers to key performance index questions through classification using Neural Network and Deep Learning predictive algorithms.

**Question to which answers are offered**

* Classification based on Return on Investment Classification (4 Categories, 1,2,3,4)
* Which stocks have 21-25% or higher annual ROI?
* Which stocks have 15-20% annual ROI?
* Which stocks have 10–15% annual ROI?
* Which stocks have less than or equal to 10% annual ROI?
* Prediction for the following year?

**Development Environment** Python Pandas Matplotlib Jupyter Notebook TensorFlow Data file (data.csv)

**Code Plan**

An outline of the code plan

**Summary**

Summarization of key performance metrics

**Visualization**

Graphical representation using 2D and 3D plots in Pandas matplotlib library.

**Risks**