### **Business Understanding**

There are a vast array of methodologies to trade financial instruments, it’s a very competitive environment where people use their own expertise to produce profits above what you would get if you were to just invest in an index fund. There are people who use fundamental analysis that consists of making sense of the financial information such as interest rates, retail sales, GDP, etc. to find out where price is heading. Then there is technical analysis that makes use of behavior of the price of the instrument being traded currently and its historical price over different timeframes. Example of timeframes: 1 week , 1 day, 4 hour, 1 hour, 30 minutes, 15 minutes, 5 minutes, 1 minute and the smallest would be by the ‘tick’ or ‘point’.

For Sterling Pound vs US Dollar GBPUSD, an indicator such as pivots are used extensively along with additional indicators such as Bollinger bands, Moving Averages, RSI and Stochastics. I would like to combine these indicators along with financial data being released from a website such as Forexfactory.com or Dailyfx.com. This data maybe possible to scrape or available via an API from Quandl.

### **Data Understanding**

Tick data can be loaded and transformed and analyzed by Pandas Time Series. This data is provided by a broker – Darwinex.

### **Data Preparation**

If there is missing data or incorrect data, cleaning may be required to appropriately fill the gaps.

### **Modeling**

Time Series in combination with **Long short-term memory** (**LSTM**) neural network to predict entry, exit.

### **Evaluation**

A sharp-ratio of greater than 1.0

<https://www.investopedia.com/ask/answers/010815/what-good-sharpe-ratio.asp>

### **Deployment**

Deploy a working algorithm connected to Darwinex using a cloud based solution such as a **Virtual Private Server (VPS)**

**Proposal review guidelines:**

[https://docs.google.com/document/d/13slgByWWlooGnY](https://docs.google.com/document/d/13slgByWWlooGnYioU7FByT1I_QW03Zbq1yWDJ_bFRZE/edit)

[ioU7FByT1I\_QW03Zbq1yWDJ\_bFRZE/edit](https://docs.google.com/document/d/13slgByWWlooGnYioU7FByT1I_QW03Zbq1yWDJ_bFRZE/edit)