# About

The Trader Sentiment Analysis Stock Predictor tool (TraderSA) will track the news cycle on a chosen stock to determine the best time to execute buy or sell orders. This effort will attempt to expand the use of Stanford University’s Natural Language Processing (NLP) tools[[1]](#endnote-1) or equivalent by employing sentiment analysis to read the news and generate market sentiment on a chosen stock to determine if this correlates with market movement of the selected stock.

The main goal of this project is to identify if a correlation exists between the news cycle and publicly traded securities using Machine/Deep Learning. The product will aim to be used on any stock, but at first focused only on Tesla (TSLA) and possibly, the top ten S&P 500 most shorted US companies[[2]](#endnote-2). I endeavor to either answer the question, if correlation exists and if it is a genuine reflection of financial risk, and if I can predict the direction of the stock for financial gain.

The project had lofty goals to use Recurrent Neural Networks to perform a more accurate sentiment analysis, but had to be trimmed to using a limited python library called TextBlob. TextBlob served the purpose well and in version 2 [post-graduation] the sentiment analysis function can be replaced by a more intensive sentiment analysis tool.

# Tools

Prototyping was performed using Jupyter Notebooks and development using Spyder 3. Several supporting python libraries are also used including, but not limited to: Pandas, Beautiful Soup 4, Selenium, TextBlob, PyQt4, Tkinter, and Matplotlib.

# System

The application is intended to be run on a Windows 10 64-bit system; however, the software and supporting libraries should work on any system with little adjustments. It just will not be tested on any other systems beyond Windows 10.

1. Standford University. 2013. *Sentiment Analysis.* August. https://nlp.stanford.edu/sentiment/ [↑](#endnote-ref-1)
2. Sheetz, 2018 [↑](#endnote-ref-2)