



## ASSIGNMENT SUBMISSION FORM

*This will be the first page of your assignment*

Course Name : **Foundational Project 1**  
Assignment Title : **Project – Final Review**  
Submitted by : **Kenny Devarapalli**

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*(Please start writing your assignment below)*

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## A. Scope of Work

- Business Problem – Low accuracy in the present stock prediction system
- Business Objective – Maximize stock prediction accuracy using sentiment analysis

### Success Criteria:

- Business Success Criteria - ROI (using sentiment analysis) **2%** > ROI (w/o sentiment analysis)
- ML Success Criteria - ML accuracy for Price prediction model > **65%**
- Economic Success Criteria - Minimum ROI expected to be ~ **10 – 12 %** *investment horizon*

## B. Process Flow

1. News Data  
Data scraping on website – MoneyWorks, post which Vader Sentiment Score using Text Analytics methodology was deduced
2. Financial Metric  
Financial Data scraped from Yahoo Finance and other data preparation techniques conducted on it, along with feature extraction & creation for further modelling.
3. Data Modelling  
Explored price prediction models using the following –
  - Classification
  - Linear Regression
  - LSTM Neural Network (2 models)
4. Deployment  
Model was deployed using Streamlit Application
5. Final Report  
CRISP-ML Methodology followed in the modelling phase is explained and laid out in this final report. Basis the findings from the models, relevant inferences were deduced to match the basic objectives & success criteria.

## C. Deliverable

1. Project Report – Current File
2. GitHub - <https://github.com/gitsim02/FoundationProject-1>
3. Final Presentation – Ppt file uploaded on Github
4. Deployment – [Streamlit Link](#)

## D. Future Scope

- Incorporate additional textual (sentiment) data for better prediction performance of model
- Optimize hyper parameters in the model as per industry norms
- Scale model to other companies and check model robustness across industries