

Bondai

We have developed our prototype on Google Colab, and we would like to recommend as well to use the same for hassle free execution of code as the required libraries are pre-installed in the Google Colab environment.

The submitted code consists of two parts –

1. The bond credit rating system
2. Financial sentiment analysis system

The codes had been submitted in jupyter notebook format as well as the corresponding python file. In order to further facilitate the code-execution we have also submitted the pdf version of the jupyter files for reference.

Required python libraries –

1. pandas
2. numpy
3. matplotlib
4. keras
5. urllib
6. bs4
7. nltk
8. yahoo-finance

Order of execution of jupyter files (python files)–

1. Dataset Creation/Acquisition - SP_Dataset_Framework.ipynb (sp_dataset_framework.py)
2. Data Pre-processing - SP_Data_Prep.ipynb (sp_data_prep.py)
3. Model Creation - Bondai_Model_1.ipynb (bondai_model_1.py)
4. Model Analysis - Model_1_Analysis.ipynb (model_1_analysis.py)
5. Credit Ratings - Credit_Ratings_1.ipynb (credit_ratings_1.py)
6. Sentiment Analysis - Financial_Sentiment_Analysis.ipynb (financial_sentiment_analysis.ipynb)
7. Stockprice Timeline - Stockprice_Timeline.ipynb (stockprice_timeline.py)

Dataset –

- Training –
 1. Pre-processed data: prep/<ticker.csv>
 2. Training tickers list: train_tickers.csv

- Testing –
 1. Testing tickers list: test_tickers.csv
 2. Testing financials: model-1/actual_data.csv
 3. Predicted financials: model-1/pred_data.csv
 4. Credit Ratings Predicted and Actual: model-1/credit_ratings_1.0.csv

- Trained Model –
 1. bondai_model_1.1.h5

Project code, data and results also available on –

1. https://git.ng.bluemix.net/vsharma4_be16/bondai
2. <https://github.com/thevipulsharma/bondai>