3) To avoid conflict in the group projects, I would request every team makes contributions from each team member clear. The contribution list must be detailed so that in the end, we are able to check who is/are responsible for which component in the final delivery.

Project Proposal Document

- Alex – initial draft
- Jacob – significant revisions
- Jacob – Verson 2 from TA feedback
- Alex – revised version 2
- Aurko - Formulated 2/5 research questions
- Jacob – finalized our 3-4 research questions / experiments and got them approved by TA/prof

Paper Review

- Each paper done individually.

Dataset generation and cleaning

- Jacob – found yfinance and used to generate dataset.
- Alex – found 30 technical markers and created a template for calculating them.
- Jacob – implemented first 9/26 technical marker functions and laid template for the rest.
- Alex – implemented 11/26 technical marker functions.
- David - implemented 4/26 technical marker functions.
- Karan - implemented 2/26 technical marker functions.
- Jacob – Edited technical marker functions for other members
- Alex – research additional model features and potential APIs
- Alex – research into meaningful keywords that could used in google trends data for additional model features along with justification
- Aurko - Research into meaningful climate-related search terms to be used as features
- Alex – research target stocks to use in prediction model with new research question
- Jacob – Compare model testing performance during and before covid

Preprocessing and model design

- Jacob – wrote functions to prepare training data with a sliding window
- Jacob – added normalization
- Jacob – Designed an initial model
- Jacob – visualized results and added baseline model
- Jacob – set up train-test split and training loop
- Alex- testing model parameters to try and optimize its performance.
- Jacob – Set up transfer learning with training on multiple stocks, then fine tuning on one.
- Jacob – Added a validation fold to use for parameter tuning
- Jacob – Implemented a per-stock normalization process

- Jacob – Developed a new model architecture combining technical and historical features in two input branches
- Aurko - Created linear regression and ARIMA baselines for regression comparison (unused)
- David – Implemented Pytrends for search term popularity with and without scaling
- Jacob – added functionality to predict change in price instead of predicting new price
- Jacob – Modified our approach to perform binary trend classification instead of regression
- Jacob – Developed a generate_dataset function to allow rapid prototyping of different model and dataset parameters, and transfer learning.
- Jacob – Used this approach and validation data to try different parameters

Experiments

- Jacob – Developed two notebooks (control and effect) to test for improvement by climate trends for traditional energy companies
- Jacob – Same as above for green energy companies
- Jacob – same as above for electric vehicle companies

Final Report and Presentation

- Alex – create the report and slideshow
- Alex – Introduction, half of discussion, related work and conclusion section of the report
- Alex – did the intro, half of the discussion and conclusion slides
- Aurko - Selected Sectors and Stocks and half of discussion sections on presentation and report
- Karan - yfinance, dataset, Question 3 and results for question 3 slides completed
- Karan – wrote out slides highlighted above into the report
- Jacob – provided feedback on intro
- Jacob – Did the methods and experiments slides
- Jacob – Wrote the methods + results for Q1&2 + the abstract + edited whole report
- David – Pytrends explanation in slideshow
- David – General latex handling
- David – Transferring most of already written report into latex
- David – Latex citations
- David – Latex bug fixes

GitHub Contributions to master

Note: Jiangonal is David

Contributions to master, excluding merge commits and bot accounts