**Peer review sheet**

MAFS6010Z, 2021 fall

Your name and sid: WONG, Hoi Ming

Group that you review: Group #18

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|  | Confidence on your assessment (1-3) | Clarity and quality of writing (1-5) | Technical quality  (1-5) | Overall rating  (1-5) |
| Score | 2 | 3.5 | 3.5 | 3.5 |

Summary:

The authors of the project explored machine learning analysis on empirical asset pricing by replication of DaCheng Xiu’s paper in 2020. It has applied various models, namely OLS, PCR, PLS, Elastic Net (Ridge+Lasso), tree-based methods (RF and GBT) and neural networks, and done a comparative analysis on out-of-sample R^2 and feature importances.

Strengths:

* The report is detailed in describing the theories of their models used and the steps taken in data processing and model fitting.
* The project is comprehensive in the sense that it has tried out all the models used by Dacheng Xiu’s paper.
* The authors explained well on why the results of the project differed from the paper’s and highlighted the difficulties encountered, such as availability of computing power

Weaknesses:

* The format of presentation of the results is slightly inconsistent across different models. For example, variable importance is normalized in tree method but not in NNs. It could also be better to have a single table grouping the R^2 of different methods for easier comparison.
* The prediction scores are generally low and different from the paper

Clarity and writing:

* The report is well-structured and easy to read in general with only few typos. It may be better to highlight the key points and use tables to present figures, as the report is a bit lengthy.
* It could be clearer to compare how the project and the paper differed in a simple table.

Technical quality:

* The ways of handling data and fitting models are technically sound, and the interpretation and analysis of the results of the authors are reasonable and supported by empirical evidence.