**Meeting Minutes – Captone Project – Stock Forecast**

**Location:** Zoom meeting

**Date:** October 13, 2023

**Time:** 12.30 pm to 1.30 pm

**Attendance:**

* Yew-Wei Lim
* Albert Wong
* Diana Ortiz
* Andrés Viloria

**Discussion:**

* The team presented the charter document. This includes project scope, Project Deliverables, List of Project Tasks, Out of Scope, Project Assumptions, Project Constraints and Approvals.
* The importance of feature engineering and hyperparameter tuning in model development was discussed.
* The comparison table (Excel file) provides a starting point to identify baseline models for XGBoost, random forest, multilayer perceptron.
* The team acknowledged the need to address the issue of missing data.
* Some EDA was suggested to understand what feature engineering is needed. Various techniques, such as normalization and transformation, were proposed to handle highly skewed distributions.
* It is important to consider the trade-off between model accuracy and training time when selecting hyperparameter values.
* The limitations of the MLP model were highlighted due to its shallow structure compared to deep models.
* Given the XGBoost model provides promising results, hyperparameter tuning of this model is a priority. MLP tuning is secondary due to the model complexity.



**Action Items:**

* Conduct further analysis on hyperparameter tuning for XGBoost, MLP, and random forest algorithms. One concern is the training time involved which prevents hyperparameter tuning execution. Hyperparameter tuning should be done only after the baseline table returns expected results.
* Verify if MSE is being calculated correctly. If not, the metrics for all combinations will need to be reprocessed.
* Explore feature engineering techniques to handle missing data and variability in demographic variables.
* Experiment with different hyperparameter values for the XGBoost model and analyze their impact on performance.