

Name: SHAO Zhihao

SID: 20582729

Email: [zshaoac@connect.ust.hk](mailto:zshaoac@connect.ust.hk)

Group 6:

- Summary of the report

This project is aimed to improve the results obtained from project 1 and explore the performance of tree-based classification methods for this specific task.

The main body of the report includes:

1. Improvement with discretization: Convert continuous values to discrete bins
2. Improvement with different models: Tree-based methods like random forest and AdaBoost
3. Improvement with hyperparameter tuning: Optimization of hyperparameters with *GridSearch* function

- Strengths of the report:

This is a continuing project from the first one, and it demonstrated possible improvements based on linear model and tree-based methods. The decision boundary of each model provides easier interpretation of results.

- Weakness of the report:

The improvement (about 0.05) in test accuracy is insignificant in my opinion. And not much knowledge taught in the last half of this course is applied.

- Evaluation on quality of writing - 4:

The report was written clearly and logically. It would be better if the model mechanisms could be included as well.

- Evaluation on presentation - 4:

The presentation was concise and informative. And the improvements of this project compared to the first one were elucidated from three different perspectives.

- Evaluation on creativity - 3:

Not much knowledge taught in the last half of this course is applied. It would be better if ensemble method could be adopted to improve the overall performance of these “weak” learners.

- Confidence on your assessment – 3: