

## Peer Review – Group 9

### • Summary of the report

The Group 9 finished *Home Credit Default Risk Prediction* project. They integrated 7 CSV data files, and during the pre-processing, they analyzed the distribution of labels, and then processed the missing values. In the feature engineering stage, they processed two types of features, numerical and categorical, respectively. Then they built two models, logistic regression and LightGBM, respectively, and added different features to compare the performance on this task. Among these results, the best model achieved 0.76614 AUC on Kaggle.

### • The strengths of the report

1. They analyzed the label distribution firstly and have some strategies for dealing with missing value, like deleting or filling with mean value and so on.
2. Then, they handled with numerical and categorical attributes respectively, like using statistical value and one-hot encoding.
3. Besides, they used k-fold cross validation for model selection.
4. Finally, they also compared different models with different features and make some conclusions.

### • The weaknesses of the report

1. They didn't do csv data selection and feature selection although they mentioned the problem of computing resources so they randomly combined features for the experiment.
2. They didn't analyze the feature importance of model after experiment. They could draw figures to show important features in model.
3. Maybe the description of LightGBM model is a little bit redundant. It could be simpler.

### • Evaluation on Clarity and quality of writing (1-5): 5

Firstly, the report is written clearly and they used good figures to analyze label distribution and explained models. Besides, the report is well organized and completed. It has the description of task, the introduction of dataset, data pre-processing, feature engineering, modeling, experiments results, conclusion and references. Moreover, I find few typos. But for the formatting, the only small drawback is that they did not justify the plain text under each title. That may affect the tidiness of the whole report a little.

- **Evaluation on Technical Quality (1-5): 4**

Overall, their results are reasonable in terms of the technology they used, because our group had tried the same experiment, so the results are replicated and acceptable. But one small drawback is that they did not specifically evaluate the strengths and weaknesses of their methods, such as explaining why some added features are useful.

- **Overall rating (1-5): 4**

A good report.

- **Confidence on your assessment (1-3): 3**

I have carefully read the paper and checked the results.