

Summary:

The report provides an overview of the data mining process using machine learning models and presents a structured workflow. However, there are areas where the report could be improved, such as exploratory data analysis, feature engineering, and model training. The predictive results obtained also indicate room for improvement.

Strengths:

The report demonstrates a comprehensive workflow for data mining with machine learning.

Weaknesses:

1.EDA: The report could benefit from more detailed exploratory data analysis. It would be helpful to address outlier handling, particularly for variables like DAYS_BIRTH and DAYS_EMPLOYED, which are highly correlated with the target variable and contain internal outliers. Additionally, providing a summary of the dataset's characteristics, including variable correlations and relationships, would enhance the analysis. It is worth noting that LabelEncoder may not be suitable for non-numeric variables without a clear ordinal relationship, and considering alternative methods like OneHotEncoder would be more appropriate.

2.Feature Engineering: The report could have delved deeper into exploratory data analysis before utilizing an automated feature selection method. This would help ensure a more thorough understanding of the data and potentially lead to better feature engineering.

3.Modeling Fitting and Evaluation: While the report focuses on a single model, LightGBM, it could be beneficial to explore ensemble learning with multiple models to reduce prediction variance. Additionally, providing more clarity on the differences and considerations between XGBoost and LightGBM models, including their support for GPU training and multi-threading, would enhance the analysis. It is worth noting that XGBoost also supports multi-threading and GPU training.

4.Conclusion: The model's performance on Kaggle was relatively average, with a score of 0.69. This could be attributed to the limited effort put into EDA, feature engineering, and modeling.

Overall Evaluation: As a group of four individuals, the effort and results presented could be further improved. Taking a more thorough approach to EDA, feature engineering, and model selecting and model training would yield better outcomes.

Evaluation on Writing: 2

The report's writing is generally clear and provides a comprehensive overview of the machine learning process. **However, there is large room for improvement in terms of reducing introductory phrases and sections and increasing the focus on the actual content, particularly regarding EDA and feature engineering.**

Evaluation on Technical Quality: 1

The results obtained in the report are not satisfactory, as mentioned in the weaknesses

section. There were missed opportunities for more in-depth exploratory data analysis and feature engineering. It is important to note that using multiple models for training and ensemble learning could have been beneficial. Furthermore, **there were two key misconceptions in the report: the incorrect assumption that XGBoost does not support GPU training and multi-threading, and the incorrect use of LabelEncoder for non-numeric variables without a clear ordinal relationship.**

Overall Rating: 1

Confidence in Your Assessment: 3