

MODEL OPTIMIZATION AND HYPERPARAMETER TUNING REPORT.

INTRODUCTION.

Hyperparameter tuning is an important part of any machine learning process. It enables engineers to get the optimal performance from a model. In this project hyperparameter tuning with Grid Search was done.

Grid search.

This is an exhaustive search done to get the best parameters for training a model on specific data.

After doing grid search, the accuracy of the model improved by less than 2%, and better recall and precision scores were recorded.

Feature importance.

This is another process carried out to determine the most important features contributing to the model development. In this project the 10 most important features were chosen and they are;

1. Previous qualifications grade
2. Course
3. Tuition fees up to date
4. Curricular units 1st sem (evaluations)
5. Curricular units 1st sem (grade)
6. Curricular units 1st sem (approved)

7. Curricular units 2nd sem (evaluations)
8. Curricular units 2nd sem (grade)
9. Curricular units 2nd sem (approved)
10. Admission grade

These features were chosen and used in the development of the machine learning model.