Project Development Phase
Model Performance Test

Date	28 November 2023
Team ID	592425
Project Name	ASL Alphabet Image Recognition
Maximum Marks	10 Marks

Model Performance Testing:

Project team shall fill the following information in model performance testing template.

Sr. No.	Parameter	Values	Screenshot
1.	Metrics	**XgBoost Model:** MAE - 3044.4736, RMSE – 5836.70183, Accuracy – 93.43701 **Random Forest:** Accuray Score - 99.779483 RMSE – 4055.838423 MAE – 1651.2174874	Accuracy: 93.4370126737608 % RMSE: 5836.7018351496745 MAE: 3044.4736011197256 Accuracy : 99.779483752483 RMSE : 4055.838423845328 MAE : 1651.2174847928749
2.	Tune the Model	Hyperparameter Tuning – Validation Method - Cross validation	

Hyperparameter Tuning and Cross validation:

```
Best Random Forest Hyperparameters: {'max_depth': 20, 'min_samples_leaf': 2, 'min_samples_split': 5, 'n_estimators': 200}
Random Forest Cross-Validation Scores: [-6.29..., -5.96..., -5.72..., -6.24..., -6.11...]
Mean Cross-Validation Score: -6.07...
```

```
XGBoost MSE: 3.98...
Best XGBoost Hyperparameters: {'learning_rate': 0.1, 'max_depth': 7, 'min_child_weight': 3, 'n_estimators': 200}
XGBoost Cross-Validation Scores: [-4.80..., -4.55..., -4.41..., -4.83..., -4.63...]
Mean Cross-Validation Score: -4.65...)
```