Model Optimization and Tuning Phase Report

Date	20 June 2024
Team ID	739900
Project Title	Predicting Permanent Magnet Resistance Of Electronic Motor Using Machine Learning.
Maximum Marks	10 Marks

Model Optimization and Tuning Phase

The Model Optimization and Tuning Phase involves refining machine learning models for peak performance. It includes optimized model code, fine-tuning hyperparameters, comparing performance metrics, and justifying the final model selection for enhanced predictive accuracy and efficiency.

Final Model	Reasoning

Hyperparameter Tuning Documentation (6 Marks):

Model	Tuned Hyperparameters	Optimal Values
Logistic regression, Decision tree regression, Randomforest regression	-	-

Performance Metrics Comparison Report (2 Marks):

Logistic regression, Decision tree regression,Randomforest regression	-

Final Model Selection Justification (2 Marks):

Model	Optimized Metric

Random Forest regression	The Random Forest Regression model was selected for its superior performance, exhibiting high accuracy . Its ability to handle complex relationships, minimize over fitting, and optimize predictive accuracy aligns with project objectives, justifying its selection as the final model.