Model Optimization and Tuning Phase Report

Date	31 July 2024
Team ID	739853
Project Title	Software Employee Salary Predictions
Maximum Marks	10 Marks

Model Optimization and Tuning Phase

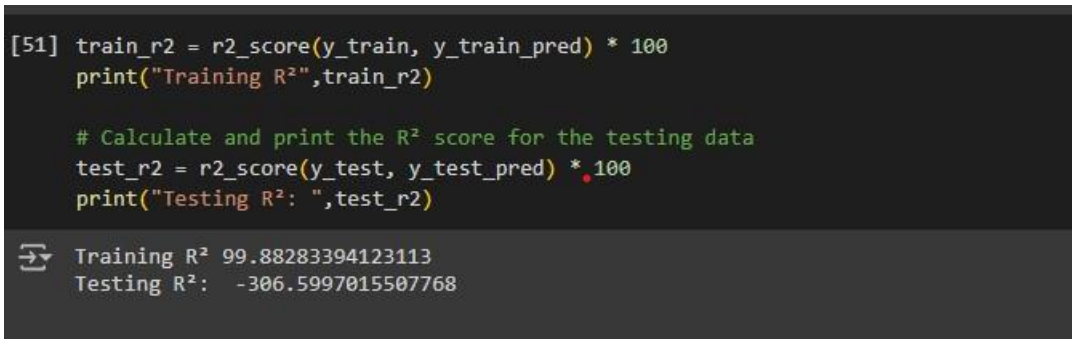
The Model Optimization and Tuning Phase involves refining machine learning models for peak performance. It includes optimized model code, fine-tuning hyperparameters, comparing performance metrics, and justifying the final model selection for enhanced predictive accuracy and efficiency.

Hyperparameter Tuning Documentation (6 Marks):

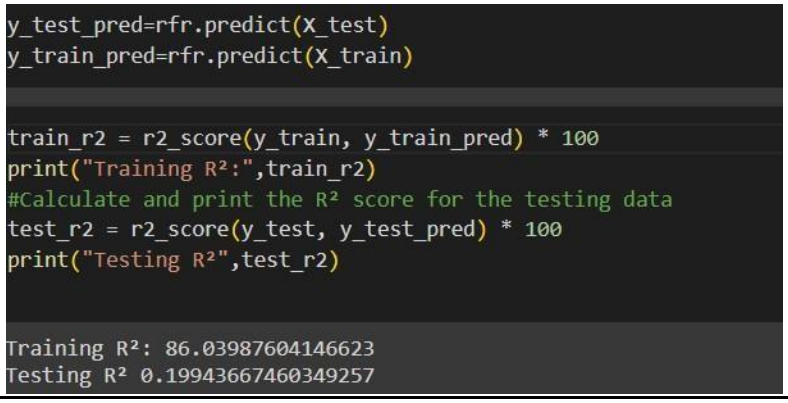
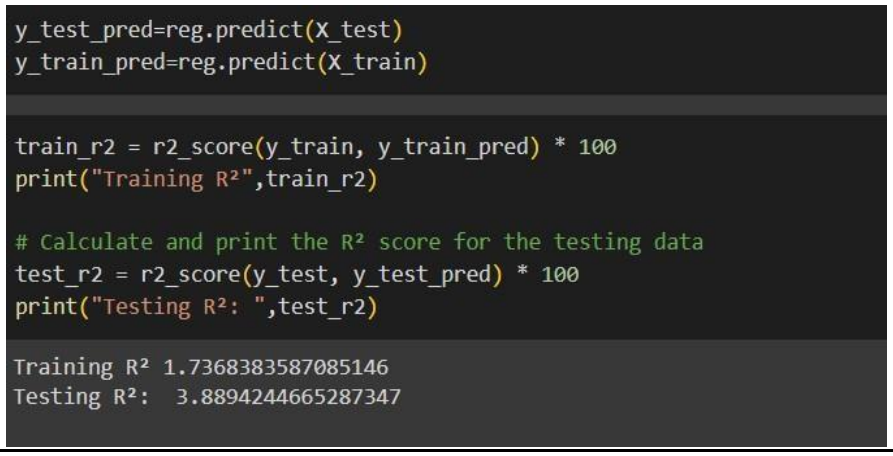
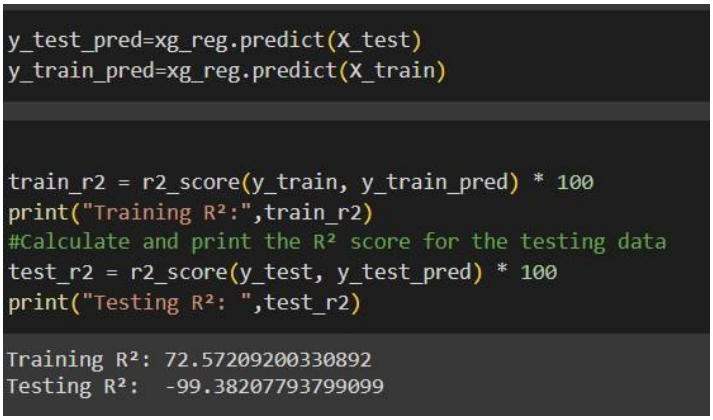
Model	Tuned Hyperparameters	Optimal Values
Decision Tree	—	—

Random Forest	—	—

Model	Optimized Metric

Decision Tree		
KNN	—	—
XG Boosting	—	—

Performance Metrics Comparison Report (2 Marks):

Random Forest	
Linear Regression	
XG Boost Regressor	

Final Model Selection Justification (2 Marks):

Final Model	Reasoning
Decision Tree Model	The Decision tree model is the final model chosen because of its best overall performance compared to other models. It capture the variance in the data very well with minimal prediction error.