

Model Optimization and Tuning Phase Report

Date	5 July 2024
Team ID	740079
Project Title	A Comprehensive Measure Of Well-Being: A Human Development Index 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.

Hyperparameter Tuning Documentation (6 Marks):

Model	Tuned Hyperparameters	Optimal values
Linear Regression	-	-
Decision Tree	-	-
Random Forest	-	-

Performance Metrics Comparison Report (2 Marks):

Model	Optimized Metric
Decision Tree	-

Random Forest	-
---------------	---

Final Model Selection Justification (2 Marks):

Final Model	Reasoning
-------------	-----------

Linear Regression	<p>The Linear Regression model was selected for its superior performance, exhibiting high accuracy . Its ability to handle complex relationships, minimize overfitting, and optimize predictive accuracy aligns with project objectives, justifying its selection as the final model.</p>
-------------------	---