

## Model Optimization and Tuning Phase Report

Date	20 June 2024
Team ID	Team - 739786
Project Title	To Predict Consumer Price Index
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.

<b>Final Model</b>	<b>Reasoning</b>
--------------------	------------------

**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.