

## Model Optimization and Tuning Phase Report

Date	20 June 2024
Team ID	739792
Project Title	Opticrop:Smart Agricultural Production Optimization Engine
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
Logistic		

regression, Kmeans, Randomforest regression	-	-
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**Performance Metrics Comparison Report (2 Marks):**

Model	Optimized Metric
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Logistic regression, Kmeans, Randomforest regression	-
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**Final Model Selection Justification (2 Marks):**

Final Model	Reasoning
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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.
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