

**Model Optimization and Tuning Phase Template**

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| Date | 15 JULY 2024 |
| Team ID | 739763 |
| Project Title | Air Quality Index Analyzer Using ML |
| Maximum Marks | 10 Marks |

**Model Optimization and Tuning Phase**

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| **Model** | **Baseline Metric** | **Optimized Metric** |
| Model 1 | Baseline value | Optimized value |

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):**

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| **Model** | **Tuned Hyperparameters** | **Optimal Values** |
| Model 1 | Hyperparam1, Hyperparam2, ... | Value1, Value2, ... |
| Model 2 | Hyperparam1, Hyperparam2, ... | Value1, Value2, ... |
| ... | ... | ... |

**Performance Metrics Comparison Report (2 Marks):**



|  |  |  |
| --- | --- | --- |
| Model 2 | Baseline value | Optimized value |

**Final Model Selection Justification (2 Marks):**

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| --- | --- |
| **Final Model** | **Reasoning** |
| Model 1 (or other) | Explanation of why this model was chosen as the final optimized model |