

**Model Optimization and Tuning Phase Template**

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| Date | 19 September 2024 |
| Team ID | 740691 |
| Project Title | Traffic Telligence Using Machine Learning |
| Maximum Marks | 10 Marks |

**Model Optimization and Tuning Phase**

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| **Model** | **Baseline Metric** | **Optimized Metric** |

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 | The Hyper Parameter Optimisation was carried out using Two-steps:  RandomizedSearchCV and  GridSearchCV | The Model Demonstrated results with accuracy, precision,recall and reaching 95% indicating ability to effectively predict  Traffic |

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

