**Model Optimization and Tuning Phase Template**

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| Date | 15 JULY 2024 |
| Team ID | 739869 |
| Project Title | View count visionary:A data driven approach to forecasting youtube videos views |
| Maximum Marks | 10 Marks |

**Model Optimization and Tuning Phase**

This template provides a comprehensive approach to documenting the model optimization and tuning phase for the "Visionary" project Brief description of the project and the importance of model optimization and tuning in improving prediction accuracy.Outline the objective of the model optimization and tuning phase, such as improving model performance, reducing error rates, and enhancing generalizability

**Hyperparameter Tuning Documentation (6 Marks):**

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| --- | --- | --- |
| **Model** | **Tuned Hyperparameters** | **Optimal Values** |
| Decision Tree |  |  |
| Random Forest |  |  |
| Lasso Regression |  |  |
| Ridge Regression |  |  |
| Random Forest |  |  |

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

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| --- | --- |
| **Model** | **Optimized Metric** |
| Decision Tree |  |
| Random Forest |  |

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

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| --- | --- |
| **Final Model** | **Reasoning** |
| Decision Tree | A supervised learning algorithm that splits data into subsets based on input features, creating a tree-like model of decisions.Decision Trees are straightforward to understand and visualize, making it easier to explain the model's predictions to stakeholders who might not have a technical background.The tree structure provides a clear decision path, showing how different features influence the forecast of YouTube videos views |