|  |  |  |
| --- | --- | --- |
| **Model** | **Tuned Hyperparameters** | **Optimal Values** |
| Decision Tree | \_ | \_ |
| Random  Forest | \_ | \_ |

**Model Optimization and Tuning Phase Report**

|  |  |
| --- | --- |
| Date | 21 June 2024 |
| Team ID | 739784 |
| Project Title | Gem Valuation Revolution: Predicting Diamond Prices With Artificial Neural Networks |
| 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):**

|  |  |  |
| --- | --- | --- |
| KNN | \_ | \_ |
| Gradient  Boosting | \_ | \_ |

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

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

|  |  |
| --- | --- |
| Random Forest | - |
| KNN | - |
| Gradient Boosting | - |

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

|  |  |
| --- | --- |
| **Final Model** | **Reasoning** |
| Gradient Boosting |  |