**Model Optimization and Tuning Phase Template**

| Date | July 2024 |
| --- | --- |
| Team ID | Team-739777 |
| Project Title | Cereal analysis based on ratings by using mechine learning techniques |
| Maximum Marks | 10 Marks |

**Model Optimization and Tuning Phase**

The Model Optimization and Tuning Phase involves refining neural network 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 (8 Marks):

| **Model** | **Tuned Hyperparameters** |
| --- | --- |
| Linear Regression Model |  |
| R2\_Score Model |  |

### 

### 

### 

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

| **Final Model** | **Reasoning** |
| --- | --- |
| **Random Forest** | Linear Regression model is chosen for its robustness in handling complex datasets and its ability to mitigate overfitting while providing high predictive accuracy.    Above all the models Linear Regression Model have the highest accuracy among all the models. |