|  |  |  |
| --- | --- | --- |
| **Model** | **Tuned Hyperparameters** | **Optimal Values** |
| Random Forest |  |  |

|  |  |
| --- | --- |
| Date | 20 June 2024 |
| Team ID | 739903 |
| Project Title | Mental health prediction |
| Maximum Marks | 10 Marks |

**Model Optimization and Tuning Phase Report**

**Model Optimization and Tuning Phase:**

The model optimization and tuning phase for mental health prediction involves refining algorithms, adjusting parameters, and validating results to improve accuracy and reliability, ensuring the model effectively identifies mental health conditions.

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

|  |  |  |
| --- | --- | --- |
| AdaBoost Classifier |  |  |

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

|  |  |
| --- | --- |
| **Model** | **Optimized Metric** |
| abc\_tuned |  |

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

|  |  |
| --- | --- |
| **Final Model** | **Reasoning** |
| XGB Clasiifier | The XGB Classifier model was selected for its superior performance, exhibiting high accuracy during hyperparameter tuning. Its ability to handle complex relationships, minimize overfitting, and optimize predictive accuracy aligns with project objectives, justifying its selection as the final model. |