**Model Development Phase Template**

|  |  |
| --- | --- |
| Date | 13 June 2024 |
| Team ID | 739763 |
| Project Title | Air Quality Index Analyzer Using ML |
| Maximum Marks | 6 Marks |

**Model Selection Report**

In the forthcoming Model Selection Report, various models will be outlined, detailing their descriptions, hyperparameters, and performance metrics, including Accuracy or F1 Score. This comprehensive report will provide insights into the chosen models and their effectiveness.

**Model Selection Report:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Model** | **Description** | **Hyperparameters** | **Performance Metric**  **(e.g., R2 score)** |
| Random forest classifier | Random forest is an ensemble learning method that constructs multiple decision trees and merges them to get a more accurate and stable prediction | Maximum depth | R2 Score:0.79 |
| Decision tree classifier | It splits the data into subsets based on the value of input features, leading to a tree like model of decisions | max depth, min samples split | R2 Score:0.88 |
| Extra tree classifier | Is an ensemble learning method that builds multiple decorrelated decision trees and merges their predictions | **max features, min samples split** | **R2 Score:0.89** |