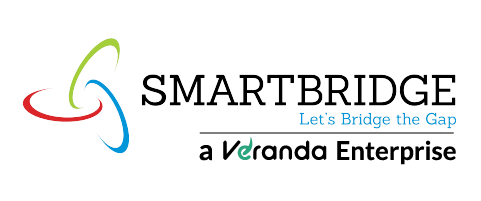
**Model Development Phase Template**

|  |  |
| --- | --- |
| Date | 20 June 2024 |
| Team ID | 739900 |
| Project Title | Predicting Permanent Magnet Resistance Of  Electronic Motor Using Machine Learning |
| Maximum Marks | 6 Marks |

|  |  |  |  |
| --- | --- | --- | --- |
| **Model** | **Description** | **Hyperparameters** | **Performance**  **Metric (e.g.,**  **R2-Score)** |



**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.

|  |  |  |  |
| --- | --- | --- | --- |
| Random  Forest | Random Forest offers a robust and versatile approach for predicting permanent magnet resistance in electronic motors, leveraging ensemble learning principles to achieve accurate and reliable predictions. Adjustments in model parameters and careful feature selection are key to maximizing its effectiveness in this specific predictive modeling task | - | R2-score =99% |
| Decision  Tree | The decision trees provide a transparent and effective method for predicting permanent magnet resistance in electronic motors. Their ability to handle non-linear relationships and interpretability make them suitable for understanding and optimizing motor performance based on various operational parameters. | - | R2-score =99% |
| Linear  Regression | linear regression is a useful starting point for predicting permanent magnet resistance in electronic motors when the relationship between motor | - | R2-score =99% |

|  |  |  |  |
| --- | --- | --- | --- |
|  | parameters and resistance can be reasonably approximated as linear. It offers transparency and insights into the factors influencing motor performance based on straightforward statistical principles. |  |  |