**Model Development Phase Template**

|  |  |
| --- | --- |
| Date | 18 June 2025 |
| Team ID | SWTID1749631993 |
| Project Title | Restaurant Recommendation System |
| 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., Accuracy, F1 Score)** |
| TF-IDF vectorization | Converts the text reviews into numerical feature vectors using Term Frequency–Inverse Document Frequency to highlight important words. | ngram\_range=(1, 2), stop\_words='english' | Not Applicable |
| Recommendation System based on TF-IDF and Nearest Neighbors | Computes restaurant similarity using cosine distance on TF-IDF vectors. Recommends restaurants based on the nearest neighbors in vector space. | n\_neighbors=11, algorithm='brute', metric='cosine' | Not applicable (evaluated through relevance of output) |

**Since our system uses unsupervised recommendation based on TF-IDF and cosine similarity, traditional evaluation metrics like classification accuracy or confusion matrix do not apply**