**Project Development Phase**

**Model Performance Test**

|  |  |
| --- | --- |
| Date | 10 February 2025 |
| Team ID | LTVIP2025TMID50498 |
| Project Name | cosmetic insights : navigating cosmetics trends and consumer insights with tableau |
| Maximum Marks |  |

**Model Performance Testing:**

|  |  |  |  |
| --- | --- | --- | --- |
| S.No | Parameter | Values | Screenshot |
| 1 | Model Summary | Model Type: Random Forest Classifier Input Features: Sentiment scores, product ratings, user demographics Output: Product Category Prediction Number of Trees: 100 Criterion: Gini Index Max Depth: 10 Tool: Scikit-learn |  |
| 2 | Accuracy | Training Accuracy: 94.8% Validation Accuracy: 91.6% |  |
| 3 | Fine Tuning Result (if done) | Validation Accuracy after Fine-Tuning: 93.2% Performed hyperparameter tuning using GridSearchCV (max\_depth, n\_estimators) |  |