Task 3 Report – Cuisine Classification

Internship: Machine Learning Internship – Cognifyz Technologies

Intern Name: Aditya Raj

Goal:

To classify restaurants based on their primary cuisine using machine learning models. The model uses restaurant features such as location, rating, price, and votes.

Dataset:

- Rows: 9,551
- Columns: 21 (e.g., name, city, cuisines, cost, votes, rating).

Steps Followed:

- Dropped rows with missing cuisine values.
- Converted binary variables to 0 and 1.
- Extracted primary cuisine as target.
- One-hot encoded 'City' column.
- Trained Random Forest Classifier.
- Evaluated model accuracy and confusion matrix.

Results:

- Model Accuracy: 0.8500
- Strong performance on common cuisines, challenges on rare ones.

Conclusion:

The model effectively classifies restaurants by primary cuisine using structured data. Demonstrates practical application of ML in multi-class classification tasks.

Future Improvements:

- Address class imbalance with SMOTE or class weighting.
- Experiment with advanced models (XGBoost, Neural Networks).
- Hyperparameter tuning using GridSearchCV.
- Deploy as a web application.