Machine Learning Internship Tasks

Task 1: Predict Restaurant Ratings

Objective: Build a machine learning model to predict the aggregate rating of a restaurant based on other features.

Steps:

- Preprocess the dataset (handle missing values, encode categorical variables, split data).
- Select a regression algorithm (e.g., Linear Regression, Decision Tree).
- Evaluate with regression metrics (MSE, R-squared).
- Interpret results and identify key influencing features.

Task 2: Restaurant Recommendation

Objective: Create a restaurant recommendation system based on user preferences.

Steps:

- Preprocess dataset (handle missing values, encode categorical variables).
- Define recommendation criteria (e.g., cuisine, price range).
- Use content-based filtering.
- Test with sample preferences and evaluate output quality.

Task 3: Cuisine Classification

Objective: Develop a machine learning model to classify restaurants based on their cuisines.

Steps:

- Preprocess data and split into training/testing sets.
- Select a classification algorithm (e.g., Logistic Regression, Random Forest).
- Evaluate with classification metrics (accuracy, precision, recall).
- Analyze performance across cuisines, note any biases.

Task 4: Location-based Analysis

Objective: Perform a geographical analysis of the restaurants in the dataset.

Steps:

- Explore latitude and longitude; visualize on a map.
- Group by city/locality and analyze concentration.
- Calculate statistics (average rating, cuisine type, price range).

- Identify location-based insights or patterns.