Data Analytics Intern Assignment Report

Company: upliance.ai

Author: Ayush Kumar

Submission Date: 23/12/2024

---

1. Objective

The goal of this assignment is to analyse datasets related to user behaviour, cooking preferences, and order trends to derive actionable insights. The analysis focuses on cleaning and merging data, identifying relationships between cooking sessions and orders, recognizing popular dishes, and exploring demographic factors influencing user behaviour. Key findings are visualized, and business recommendations are provided.

---

2. Data Overview

Three datasets were provided for analysis:

1. UserDetails
    - Includes demographic and preference details of users.
    - Key Columns: User ID, Name, Age, Location, Favourite Meal, Total Orders.
2. CookingSessions
    - Contains information about user cooking activities.
    - Key Columns: Session ID, User ID, Dish Name, Meal Type, Session Duration, Rating.

3. OrderDetails
    - Includes user order history and related metrics.
    - Key Columns: Order ID, User ID, Dish Name, Order Status, Amount (USD), Rating.

---

3. Methodology

1. Data Cleaning:
    - Handled missing values in the Rating column of the OrderDetails dataset by imputing the average rating.
    - Verified the integrity of key identifiers (User ID, Session ID) across datasets.
2. Data Merging:
    - Merged datasets using common keys (User ID and Session ID) to create a unified structure for analysis.
3. Analysis:
    - Explored relationships between cooking sessions and orders.
    - Identified the most frequently cooked and ordered dishes.
    - Investigated demographic factors (e.g., age, location) impacting user preferences and activity.
4. Visualization:
    - Created charts to visualize trends, popular dishes, and demographic impacts.

---

4. Key Findings

1. Cooking Sessions and Orders:
    - A strong correlation was observed between higher-rated cooking sessions and completed orders.
    - Users with frequent cooking sessions were more likely to place repeat orders.
2. Popular Dishes:
    - Top dishes: Spaghetti, Caesar Salad, Grilled Chicken.
    - Dinner was the most preferred meal type, followed by lunch and breakfast.
3. Demographic Insights:
    - Younger users (aged 25-35) exhibited higher engagement with the platform.
    - Urban locations (e.g., New York, Los Angeles, Chicago) accounted for the majority of sessions and orders.

---

5. Business Recommendations

1. Personalized Recommendations:
    - Leverage user preferences (e.g., favourite meals) to suggest recipes and orders.
2. Targeted Marketing:
    - Focus campaigns on urban centres and the 25-35 age demographic to maximize reach and engagement.
3. Improve Dinner Options:
    - Expand the dinner menu with innovative and diverse offerings, as dinner is the most popular meal type.

4. Retention Strategies:
    - Offer loyalty programs and incentives for frequent users to encourage repeat orders.

---

6. Deliverables

1. Cleaned Datasets:
    - Uploaded to GitHub repository.
2. Code and Analysis:
    - Scripts for data cleaning, merging, and visualization included in the repository.
3. Visualizations:
    - Charts showcasing key insights.
4. README.md:
    - Document describing the project setup and findings.

---

7. Conclusion

The analysis provides actionable insights into user behavior, cooking preferences, and order trends. Implementing the recommendations will help upliance.ai enhance user engagement, improve service offerings, and boost overall customer satisfaction.