1. Project Overview

The AI-Powered Travel & Food Guide is a system designed to assist travelers in planning their trips by providing recommendations for destinations, accommodations, and food choices. The project leverages AI and data-driven techniques to personalize travel experiences based on user preferences.

2. Objectives

- Develop an AI-based travel assistant that provides personalized recommendations.
- Suggest accommodations and food options based on budget, preferences, and duration of stay.
- Provide users with estimated budgets for their trips.

3. Methodology

The project follows a structured workflow:

1. **User Input Handling**: Collects user preferences such as destination, budget, duration, and food preferences.
2. **Data Processing**: Cleans and structures data related to travel and food options.
3. **Recommendation System**: Uses AI algorithms to suggest travel destinations, accommodations, and dining options.
4. **Budget Estimation**: Computes estimated costs for accommodation, food, and transportation.
5. **Integration with External APIs**: Connects to data sources (e.g., OpenAI API, travel databases) for dynamic suggestions.
6. **User Interaction**: Allows users to refine their choices through feedback loops.

4. Implementation Details

- **Technology Stack**:
    - Datasets from Kaggle
    - Python (Pandas, OpenAI API, JSON handling)
    - Data classes for structured input handling
    - Google Colab integration for cloud-based execution
- **Key Components**:
    - **TravelPreferences Dataclass**: Stores user inputs such as budget, duration, and destination.
    - **BudgetEstimate Data class**: Computes cost breakdown for the trip.
    - **Recommendation Engine**: Generates personalized suggestions for destinations and food.

    - **Google Drive Integration**: Stores and retrieves travel-related data.

5. Results & Insights

- The system successfully provides travel and food recommendations based on user preferences.
- Estimated budgets help users make informed decisions.
- Integration with OpenAI API allows dynamic suggestions, improving user experience.
- The model can adapt based on feedback, refining recommendations over time.

6. Future Enhancements

- Introduce a chatbot interface for conversational interaction.
- Optimize AI algorithms for better accuracy in predicting user preferences.