

How to Run the AI Trip Recommender Streamlit App Locally

1. Project Folder Structure (to be implemented)

```
trip_recommender_app/
├── trip_app_combined.py          # Main Streamlit app
├── requirements.txt              # All Python package dependencies
├── app.yaml                     # (Optional) For GCP deployment
├── .streamlit/
│   └── config.toml              # Streamlit config or secrets
├── destination_embeddings/
│   ├── destinations.csv
│   ├── destination_embeddings.pkl
│   └── faiss_destinations.index
├── trip_member_embeddings/
│   ├── members.csv
│   ├── trips.csv
│   ├── trip_history_embeddings.pkl
│   └── faiss_trip_history.index
├── destination_weather_embeddings/
│   ├── destinations.csv
│   ├── weather.csv
│   ├── destination_weather_embeddings.pkl
│   └── faiss_destinations_weather.index
└── trip-recommendation-project-xxx.json # GCP credentials file
```

2. Prerequisites

- Python 3.9 or above
- Virtual environment (recommended)
- Google Cloud account with billing enabled
- BigQuery enabled
- Service account credentials JSON
- Streamlit installed

3. Setup Instructions

A. Create and activate a virtual environment

```
python -m venv venv
source venv/bin/activate # Mac/Linux
venv\Scripts\activate    # Windows
```

B. Install dependencies

```
pip install -r requirements.txt
```

C. Create `.streamlit/secrets.toml`

Inside the `.streamlit` folder, create a file named `secrets.toml` with the following contents:

```
OPENAI_API_KEY = "your-openai-key"
GOOGLE_APPLICATION_CREDENTIALS = "trip-recommendation-project-xxxx.json"
```

Also make sure the referenced `trip-recommendation-project-xxxx.json` is in the root directory.

4. Upload Datasets to BigQuery

A. Create BigQuery Dataset and Tables

1. Visit: <https://console.cloud.google.com/bigquery>
2. Select your project (e.g., `trip-recommendation-project`)
3. Create a dataset named: `travel_data`
4. Upload the following CSVs into that dataset:

- A.members
- B.destinations
- C. trips
- D.weather

Use auto schema detection when uploading.

B. Generate and Download GCP Credentials

1. Go to: <https://console.cloud.google.com/iam-admin/serviceaccounts>
2. Click **Create Service Account**
3. Give any name like: `trip-recommender`
4. Assign roles:
 - **BigQuery Data Viewer**
 - **BigQuery User**
5. Create and download the JSON key
6. Place this JSON file in your project root

C. Connect to BigQuery Locally

Option 1 (via `.streamlit/secrets.toml` – preferred):

```
GOOGLE_APPLICATION_CREDENTIALS = "trip-recommendation-project-xxxx.json"
```

Option 2 (via terminal):

```
export
GOOGLE_APPLICATION_CREDENTIALS="trip-recommendation-project-xxxx.json"
```

Windows CMD:

```
set  
GOOGLE_APPLICATION_CREDENTIALS=trip-recommendation-project-xxxx.json
```

5. Run the App Locally

From the project root:

```
streamlit run trip_app_combined.py
```

Then open the app at: <http://localhost:8501>

6. Regenerate Embeddings (if needed)

If you modify or replace the raw datasets, regenerate embeddings like this:

```
python destination_embeddings/embed_destinations.py  
python trip_member_embeddings/embed_trip_histories.py  
python destination_weather_embeddings/embed_destination_weather.py
```