

## AI – POWERED TRAVEL PLANNER

### library/module is used :

- Imports core libraries: **streamlit** for UI, **json** and **os** for handling data and environment, **datetime** for date formatting.
- Imports **GoogleSearch** from **serpapi** to fetch flight data via SerpAPI.
- Imports **Agent**, **SerpApiTools**, and **Gemini** from the **agno** package for AI agents and language models.
- Sets Streamlit page configuration: page title, layout, and theme colors with custom CSS for dark mode UI.

### API Key Setup and Parameters :

- Defines SerpAPI and Google API keys as environment variables (hardcoded here, usually should be hidden).
- Prepares parameter dictionary **params** for flight search API calls, including source, destination, dates, currency, language, and API key.

### Flight Data Functions :

- **fetch\_flights()** function:
  - Uses GoogleSearch from SerpAPI with flight parameters to retrieve flight options as a JSON dictionary.
- **extract\_cheapest\_flights()** function:
  - Extracts the "best\_flights" list from API response.
  - Sorts flights by price and returns top 3 cheapest flights.

### AI Agents Setup :

- Defines three AI agents using the agno framework and Gemini language models:
  - **Researcher Agent:** Instructions to gather destination details, attractions, culture, safety, and activities based on user interests.
  - **Planner Agent:** Instructions to create a day-wise itinerary optimized for user preferences, budget, and flight/hotel data.
  - **Hotel & Restaurant Finder Agent:** Instructions to find top hotels and restaurants near attractions aligned with user preferences.

### Helper Functions :

- **format\_datetime()** converts ISO datetime strings (e.g., "2025-03-06 18:20") into readable format ("Mar-06, 2025 | 06:20 PM").
- Other inline formatting and string interpolation for UI presentation.

### **Summary**

- Streamlit UI components for input and output,
- Flight data fetching via SerpAPI,
- Three distinct AI agents for researching, hotel/restaurant searching, and itinerary planning,
- AI-powered travel planner web app.