
CAPSTONE PROJECT

TRAVEL PLANNER AGENT

Presented By:

Student name : STEFNA JOHN

College Name : EASWARI ENGINEERING COLLEGE

Department : AI & DS

OUTLINE

- Problem Statement
- Technology used
- Wow factor
- End users
- Result
- Conclusion
- Git-hub Link
- Future scope
- IBM Certifications

PROBLEM STATEMENT

Modern travelers face overwhelming complexity when planning trips, juggling destination research, price comparisons, accommodation bookings, transportation options, and real-time variables like weather and delays. Current solutions (booking websites, static guides) lack personalization, real-time adaptability, and unified management, resulting in stressful, inefficient planning experiences.

Proposed Solution:

An AI Travel Planner Agent powered by IBM Granite and IBM Cloud Lite that automates personalized itinerary creation, integrates real-time weather/transport data, and manages bookings through a unified dashboard. It uses NLP to understand preferences and Watsonx APIs to adapt plans dynamically, offering tailored recommendations . The result is a stress-free, end-to-end travel planning experience.

TECHNOLOGY USED

- IBM Granite model: granite-3-3-8b-instruct was used
- IBM cloud lite services: Hosts real time APIs (weather, maps, bookings) and scalable backend services.
- Natural Language Processing (NLP)
- Watsonx.data: Integrates live travel data (flights, alerts) for adaptive planning.

IBM CLOUD SERVICES USED

- Cloud Object Storage
- IBM Cloud Watsonx AI Studio
- IBM Cloud Watsonx AI runtime
- IBM Cloud Agent Lab
- IBM Granite-3-3-8b foundation model

WOW FACTORS

This AI-powered agent will revolutionize travel planning by eliminating hours of manual research, optimizing itineraries in real time, and ensuring personalized, stress-free trips tailored to each user's unique needs. It bridges the gap between inspiration and execution, making dream vacations accessible with minimal effort.

Unique features:

- The system intuitively matches destinations to your travel personality and past preferences, eliminating generic recommendations.
- The AI handles complex group travel dynamics, resolving conflicts like "Find activities that work for both kids and grandparents" with balanced suggestions
- It suggests off-the-beaten-path recommendations by analyzing patterns from travellers with similar interests, not just popular tourist spots.
- Recommendation based on a user's current topic
- Trend analysis over time for specific keywords or domains.

END USERS

- Solo Explorers: Need personalized, safe, and social-friendly itineraries.
- Families: Require kid-friendly activities, budget tracking, and stress-free logistics.
- Group Travelers: Split costs, coordinate preferences, and manage bookings collectively.
- Corporate Professionals: Optimize tight schedules with transit/dining near meetings.
- Elderly & Tech-Novice Users: Simple voice/chat interface ("Plan a trip to visit my grandkids in Chicago").

RESULTS

Tested AI Agent

IBM watsonx

Upgrade ?

Stefna John's Account

Dallas

SJ

Projects / Travel_Agentt / Agent Lab

Share feedback β Unsaved 📁 New agent + Deploy 🚀

Build

AI Model: granite-3-3-8b-instruct

Setup

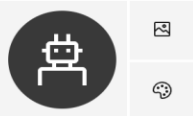
Name

Travel_Agentt

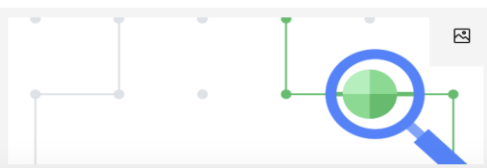
Description 90/100

I am your AI-powered Travel assistant, here to help you with personalized travel planning.

Icon



Placeholder image



Model parameters

! You can edit parameters only when the conversation has been cleared in chat mode.

Clear chat

Frequency penalty

-2 2 1

Presence penalty

-2 2 1

Temperature

0 2 0

Top P (nucleus sampling)

0.01 1 1

Max tokens

2000

Random seed

Agent preview

SJ You: 11:50 PM

Plan a 5-day trip to Japan for under \$1,000

Travel_Agentt 11:50 PM

Hi! I'm your AI Travel Planner. Where would you like to explore in Japan? I can help with destinations, itineraries, bookings, and real-time travel updates!

To plan a 5-day trip to Japan for under \$1,000, we'll need to consider budget-friendly options while ensuring you experience the best of what Japan has to offer. Here's a rough outline:

Day 1: Arrival in Tokyo

- Flight: Look for economy fares on budget airlines or use flight comparison tools like Skyscanner or Google Flights for the best deals. Remember that prices fluctuate rapidly; hence checking these platforms directly is recommended. (I can't check live prices now.)
- Accommodation: Consider staying in an Airbnb or hostel in areas like Shinjuku or Asakusa for affordability without compromising convenience.

Day 2 & 3: Explore Tokyo

Activities could include visiting free attractions such as Meiji Shrine and Yoyogi Park, exploring Harajuku's quirky fashion scene, strolling through Ueno Park and its museums (some have entry fees but there are also free exhibitions). For food, street markets like Ameya Yokocho offer local delicacies at reasonable prices. Use public transportation which is efficient and relatively cheap (\$4-\$6 per single fare).

Type something...

🗨️ ➤

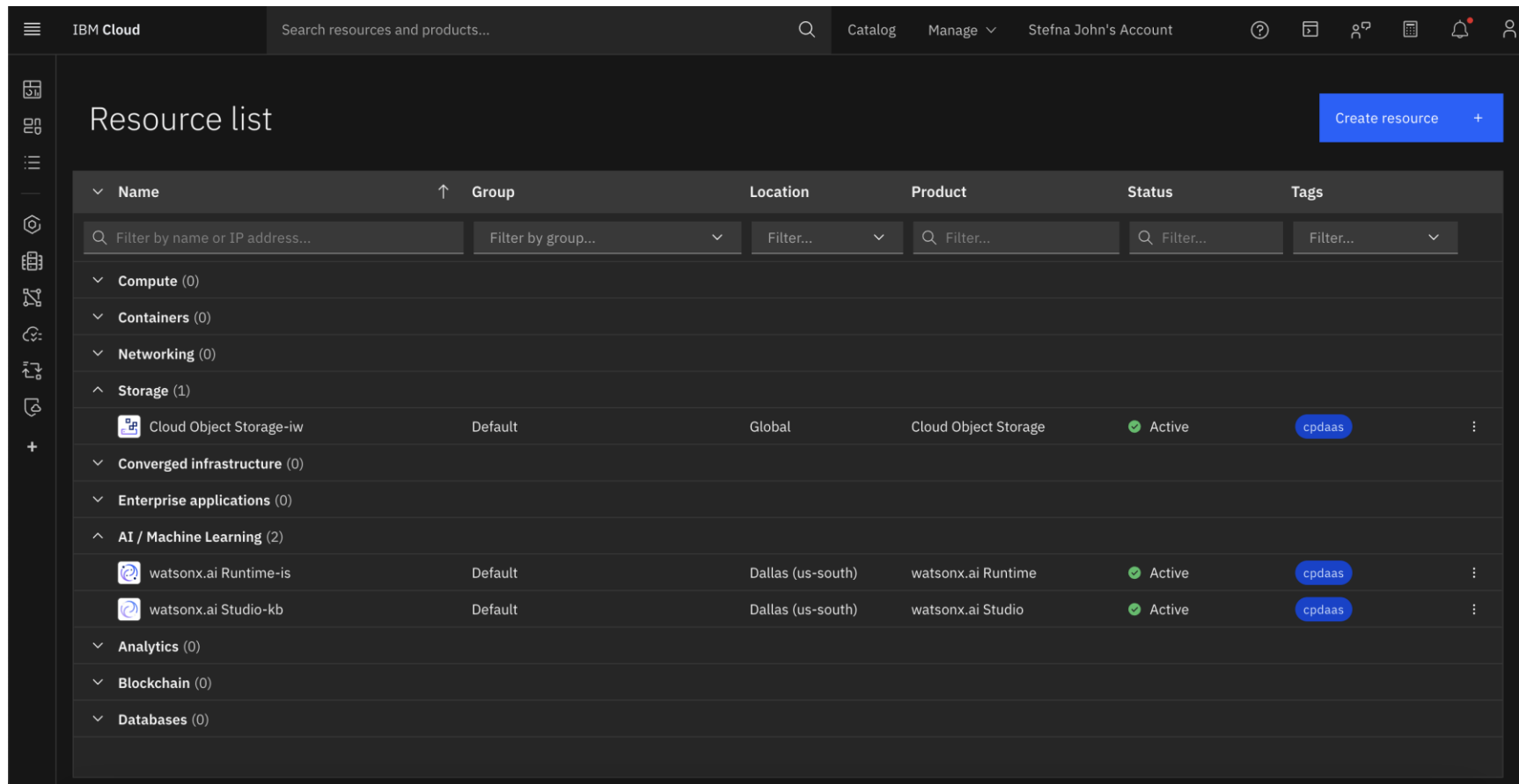
RESULTS

Tested AI Agent

- The Travel AI Agent was fed the Instructions and Knowledge base documents.
- The Model parameters were adjusted accordingly.
- It was Tested and Validated using several queries like "plan a 5-day trip to japan"
- Task Success Rate: Measure if users complete goals (e.g., book a 3-day trip) without assistance
- Latency Checks: Ensure responses load

RESULTS

Resources used



The screenshot shows the IBM Cloud console interface. At the top, there's a header with the IBM Cloud logo, a search bar, and navigation links like 'Catalog', 'Manage', and 'Stefna John's Account'. Below the header, the main section is titled 'Resource list' and includes a 'Create resource' button. The resources are organized into categories on the left: Compute (0), Containers (0), Networking (0), Storage (1), Converged infrastructure (0), Enterprise applications (0), AI / Machine Learning (2), Analytics (0), Blockchain (0), and Databases (0). The 'Storage' category is expanded, showing a single resource: 'Cloud Object Storage-iw'. The 'AI / Machine Learning' category is also expanded, showing two resources: 'watsonx.ai Runtime-is' and 'watsonx.ai Studio-kb'. Each resource row displays its name, group, location, product, status, and tags.

Name	Group	Location	Product	Status	Tags
Filter by name or IP address... Filter by group... Filter... Filter... Filter...					
Compute (0)					
Containers (0)					
Networking (0)					
Storage (1)					
Cloud Object Storage-iw	Default	Global	Cloud Object Storage	Active	cpdaas
Converged infrastructure (0)					
Enterprise applications (0)					
AI / Machine Learning (2)					
watsonx.ai Runtime-is	Default	Dallas (us-south)	watsonx.ai Runtime	Active	cpdaas
watsonx.ai Studio-kb	Default	Dallas (us-south)	watsonx.ai Studio	Active	cpdaas
Analytics (0)					
Blockchain (0)					
Databases (0)					

RESULTS

Deployed AI Agent

IBM watsonx

Upgrade ?

Stefna John's Account

Dallas

SJ

[Deployment spaces](#) / [Travel_Agentt](#) / [Travel_Agentt](#) /

Travel_Agentt


✓ Deployed Online

API reference

Test

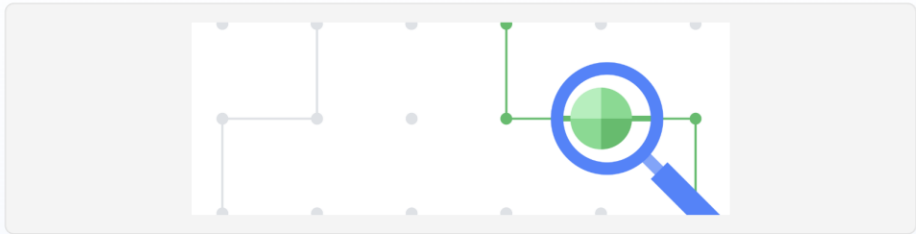
Preview

New chat +

 Travel_Agentt 12:32 AM

Welcome to Travel_Agentt

I am your AI-powered Travel assistant, here to help you with personalized travel planning.



Type something...

CONCLUSION

- The agent can generate reports, suggest hypotheses, and even draft sections of research papers.
- By combining IBM Granite's NLP and real-time data integrations, the agent eliminates hours of manual research, delivering hyper-personalized itineraries in seconds.
- From crisis management to uncovering hidden gems, it acts as both a planner and local guide—making every trip uniquely tailored.

FUTURE SCOPE

- Voice & Multilingual Expansion: Integrate real-time voice interaction and support for 50+ languages to serve global travelers seamlessly.
- Augmented Reality (AR) Integration: Use AR glasses or apps for real-time navigation, hotel previews, and historical site overlays (example: "Point your camera at this monument to see its story").
- Sustainability & Carbon Tracking: Recommend eco-friendly routes/hotels and offset carbon footprints automatically (example: "Your train option saves 200kg CO2 vs flying").
- Predictive Personalization: Leverage generative AI to anticipate needs (e.g., "You loved Tokyo's ramen here's a Osaka food map") and pre-book recurring trips (annual family vacations).

IBM CERTIFICATIONS

getting started with AI certification



IBM **SkillsBuild**

Completion Certificate



This certificate is presented to

Stefna John

for the completion of

**Lab: Retrieval Augmented Generation with
LangChain**

(ALM-COURSE_3824998)

According to the Adobe Learning Manager system of record

Completion date: 03 Aug 2025 (GMT)

Learning hours: 20 mins

GITHUB LINK

GitHub Repository Link:

https://github.com/stefnajohn/Travel_Agent.git



THANK YOU