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# CAPSTONE PROJECT

**PROJECT TITLE:- TRAVEL PLANNER AGENT**

**Presented By:**  
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# OUTLINE

- **Problem Statement** (Should not include solution)
- **Proposed System/Solution**
- **System Development Approach** (Technology Used)
- **Algorithm & Deployment**
- **Result (Output Image)**
- **Conclusion**
- **Future Scope**
- **References**

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# PROBLEM STATEMENT

**Example:** Modern travel planning is often time-consuming, fragmented, and overwhelming due to the abundance of information, unpredictable factors (like weather or delays), and the need to manually coordinate transport, accommodation, and itineraries. Users struggle to find personalized, real-time, and intelligent assistance to streamline travel decisions. There is a growing need for a system that can intelligently understand user preferences and provide smart, adaptive recommendations for a seamless travel experience.

# PROPOSED SOLUTION

- We propose an **AI-powered Travel Planner Agent** developed using **IBM Granite foundation models** and deployed on **IBM Cloud Lite**. This intelligent assistant uses natural language interaction to understand user preferences, travel constraints, and budgets, offering real-time, customized travel plans.
- Key features include:
  - Destination recommendations based on travel month, interests, and crowd levels
  - Accommodation suggestions filtered by location, price, and reviews
  - Transport options with comparisons for time and cost efficiency
  - Day-wise itineraries tailored for solo, group, or family travel
  - Local weather forecasts and packing suggestions
  - Real-time alerts for flight delays or schedule changes
  - Information on cultural events and festivals during the trip
- The agent ensures a seamless and personalized travel planning experience, reducing manual effort and enhancing decision-making.

# SYSTEM APPROACH

## Technologies Used:

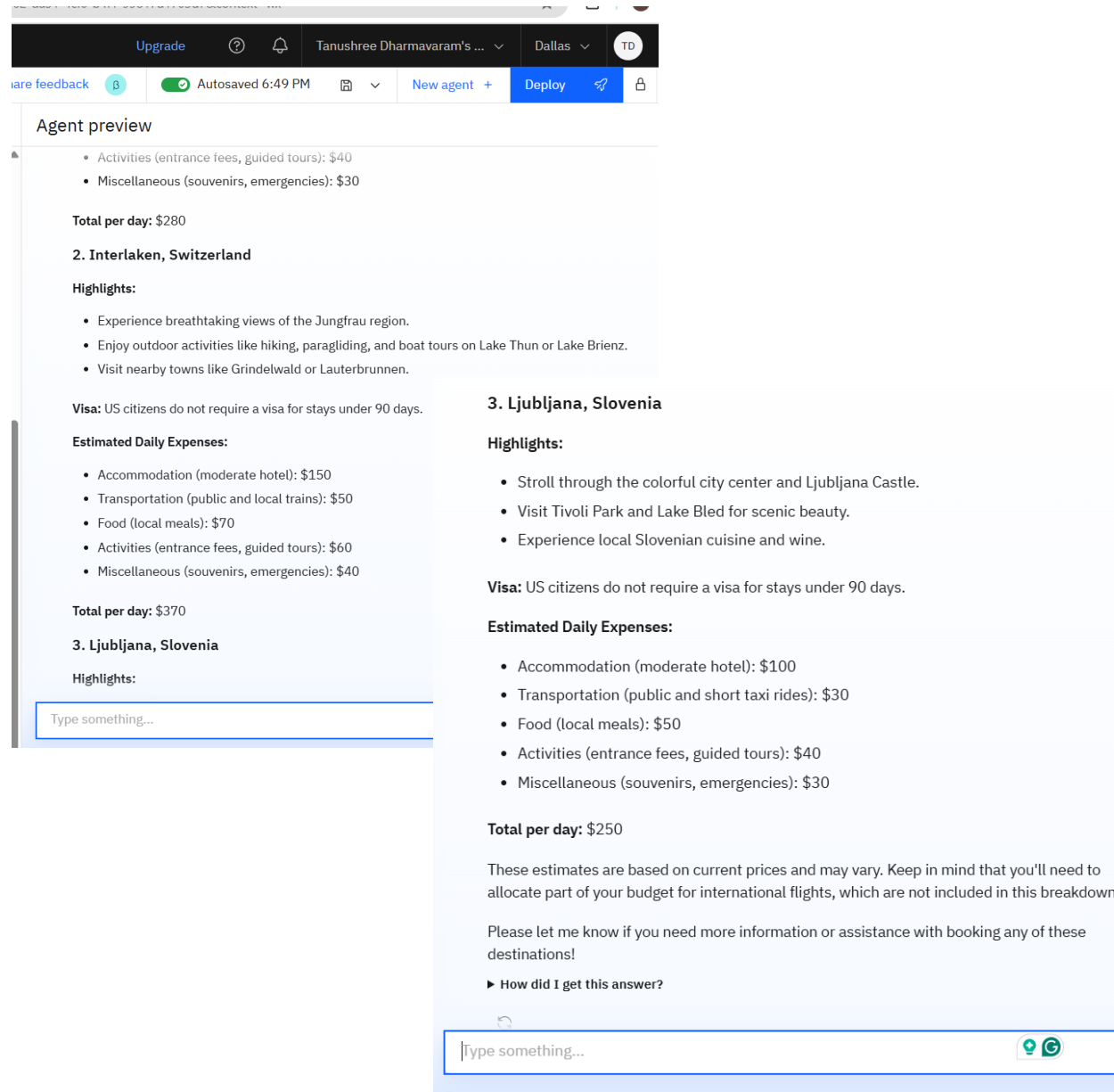
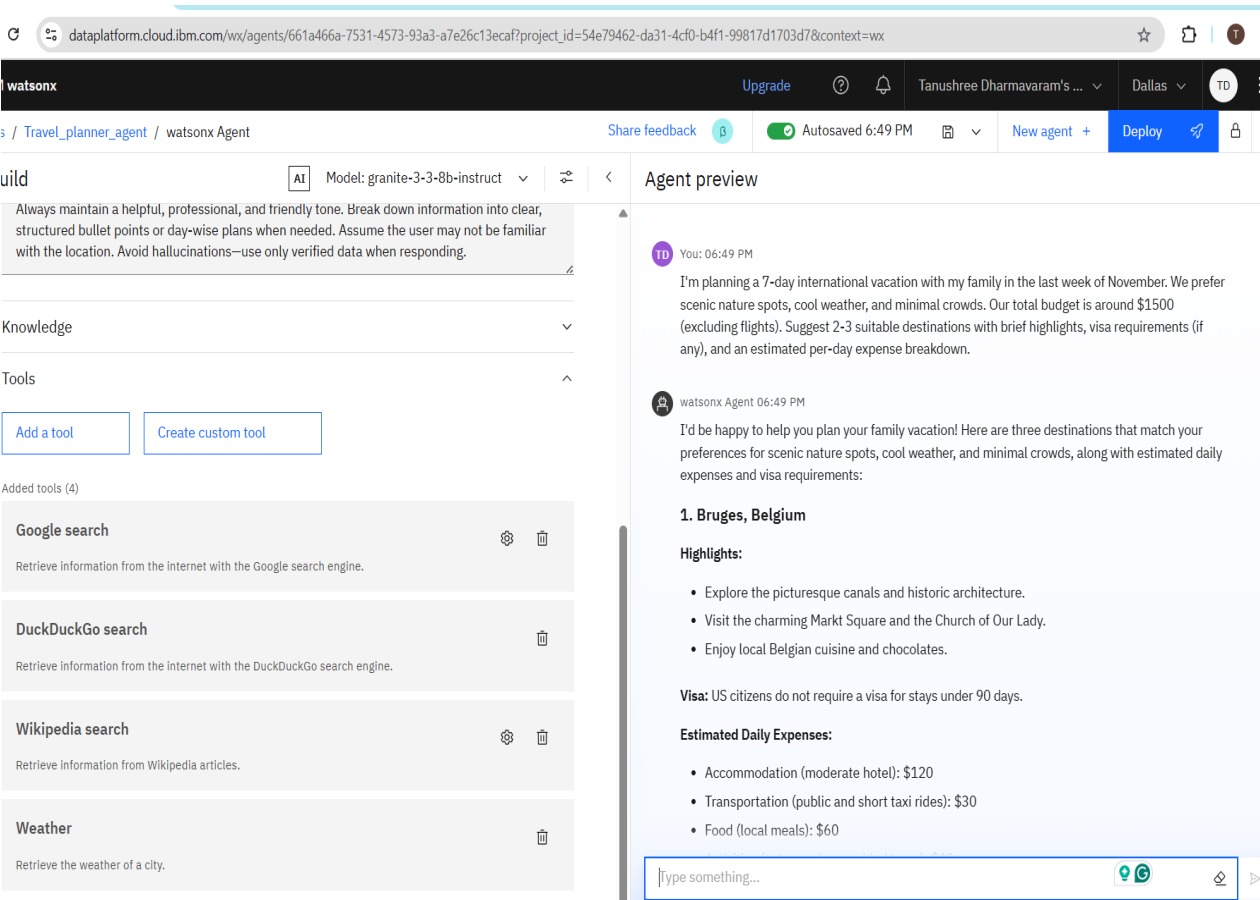
- **IBM Granite Model** (granite-3-3-8b-instruct) via Watsonx.ai for Natural language processing
- **IBM Cloud Code Engine / Foundry** for deployment
- **IBM Cloud Object Storage / Cloudant DB** for saving trip data and user preferences

## Tools:

- **Google search** :Retrieve information from the internet with the Google search engine.
- **DuckDuckGo search** :Retrieve information from the internet with the DuckDuckGo search engine.
- **Wikipedia search** :Retrieve information from Wikipedia articles.
- **Weather** :Retrieve the weather of a city.
- **Python Interpreter** :Execute Python code generated by the agent.

# ALGORITHM & DEPLOYMENT

- **Algorithm Flow:**
- **Input:** User enters travel preferences (destination, date, budget, etc.)
- **Intent Extraction:** Granite model extracts keywords and intent from user queries
- **Data Retrieval:**
  - Calls weather API
  - (Optionally) Calls travel APIs or uses generated data
- **Itinerary Generation:** AI builds a personalized, day-wise travel plan
- **Response Generation:** Outputs recommendations in conversational form
- **Deployment:**
- Model hosted via **IBM Watsonx.ai**
- Backend hosted on **IBM Cloud Code Engine**
- API calls and prompts routed through Flask/Node to the LLM
- Interface (CLI/Web) connects to the backend and receives responses from the agent



Upgrade

Tanushree Dharmavaram's ...

Dallas

TD

Share feedback

Autosaved 6:54 PM

New agent

Deploy

Agent preview

TD

You: 06:54 PM

Generate a 5-day solo travel itinerary for a student visiting Pune, India in the last week of August (overlapping with Ganesh Chaturthi). Include day-wise plans, must-see places, approximate costs per day, local safety tips, expected weather, and describe how the festival impacts local transport and attractions.

watsonx Agent 06:54 PM

5-Day Solo Travel Itinerary for Pune, India (Last week of August, overlapping with Ganesh Chaturthi)

Day 1: Arrival and Local Exploration

- Morning:** Arrive in Pune. Check into your accommodation (budget hotel: ~\$25/night).
- Afternoon:** Visit the **Shaniwar Wada**, a historical fort, and the nearby **Patawarri House**.
- Evening:** Explore **Sarasbaug Haat** (weekly market) for local handicrafts and street food.
- Weather:** Expect hot and humid weather with temperatures around 35°C (95°F).
- Safety Tip:** Stay hydrated, use sunscreen, and avoid walking alone in less crowded areas at night.
- Cost:** \$25 (accommodation) + \$10 (food and local transport) = \$35/day

Day 2: Cultural Immersion

- Morning:** Visit the **Aga Khan Palace**, a historical site with significance during India's independence movement.
- Afternoon:** Explore the **Parvati Temple** and the **Pashan Lake** area for a peaceful walk.
- Evening:** Enjoy the **Shree Santacruz Beach** (artificial lake) for a serene evening.
- Festival Impact:** Ganesh Chaturthi celebrations will start, so expect increased local festivities and possibly road closures near major pandals (temporary structures for idol installation).
- Cost:** \$25 (accommodation) + \$15 (food and transport) = \$40/day

Type something...

Day 3: Historical and Religious Sites

- Morning:** Visit the **Mahatma Phule Museum** and **Jayakwadi Lake**.
- Afternoon:** Head to the **Lingayats' Parvati Temple** and **Dhoby Patil Wada**.
- Evening:** Explore the **Osho International Meditation Resort**, offering tranquility and beautiful landscapes.
- Weather:** Continue hot and humid with a chance of afternoon showers.
- Safety Tip:** Carry an umbrella for unexpected rain and stay aware of any festival-related traffic diversions.
- Cost:** \$25 (accommodation) + \$18 (food and transport) = \$43/day

Day 4: Day Trip to Pandharpur

- Morning:** Take an early bus to Pandharpur (~\$5, 4 hours from Pune).
- Afternoon:** Visit the **Vithoba Temple** and explore the town.
- Evening:** Return to Pune by evening bus (~\$5).
- Festival Impact:** Public transport might be busier due to festival-related travel. Plan your journey in advance.
- Cost:** \$25 (accommodation) + \$25 (travel, food) = \$50/day

Day 5: Shopping and Departure

- Morning:** Visit **Shaniwar Peth** for local shopping and experience the bustling market atmosphere.
- Afternoon:** Explore **Bund Garden** and relax before your departure.
- Evening:** Depart from Pune.
- Weather:** Hot and humid, with a chance of showers.
- Safety Tip:** Keep an eye on your belongings in crowded markets and ensure you have all your belongings before leaving.

Type something...

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- Cost:** \$25 (accommodation) + \$25 (travel, food) = \$50/day

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- Evening:** Depart from Pune.
- Weather:** Hot and humid, with a chance of showers.
- Safety Tip:** Keep an eye on your belongings in crowded markets and ensure you have all your belongings before leaving.
- Cost:** \$25 (accommodation) + \$12 (food and local transport) = \$37/day

Total Estimated Cost:

~\$150 for accommodation + \$120 for food, transport, and activities = \$270 for 5 days.

Note:

Prices are approximate and can vary. Ganesh Chaturthi's impact means some places might be crowded, and transport could be busier. Always check local updates and plan your travel accordingly.

Let me know if you need further assistance with booking accommodations, transport, or specific activities!

► How did I get this answer?

Type something...



# CONCLUSION

- This Travel Planner Agent simplifies and enhances the travel planning experience by:
- Understanding natural language inputs
- Leveraging real-time data
- Generating optimized and personalized travel recommendations
- The solution demonstrates how AI can automate and personalize complex tasks, offering a user-friendly alternative to manual travel research and coordination.

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# FUTURE SCOPE

- **Real Booking Integration:** Connect to live hotel, flight, and activity booking APIs
- **Voice Assistant Integration** (e.g., IBM Watson Assistant or Google Assistant)
- **Mobile App Version** for offline itinerary access
- **Multilingual Support** using translation models
- **Collaborative Planning** for groups and families
- **AI Feedback Loop** to improve suggestions over time based on user satisfaction

# REFERENCES

- IBM watsonx.ai Documentation
- IBM Granite Models
- IBM Cloud Code Engine
- OpenWeatherMap API
- Booking.com API (used conceptually or simulated)

# IBM CERTIFICATIONS

Screenshot/ credly certificate  
( getting started with AI)



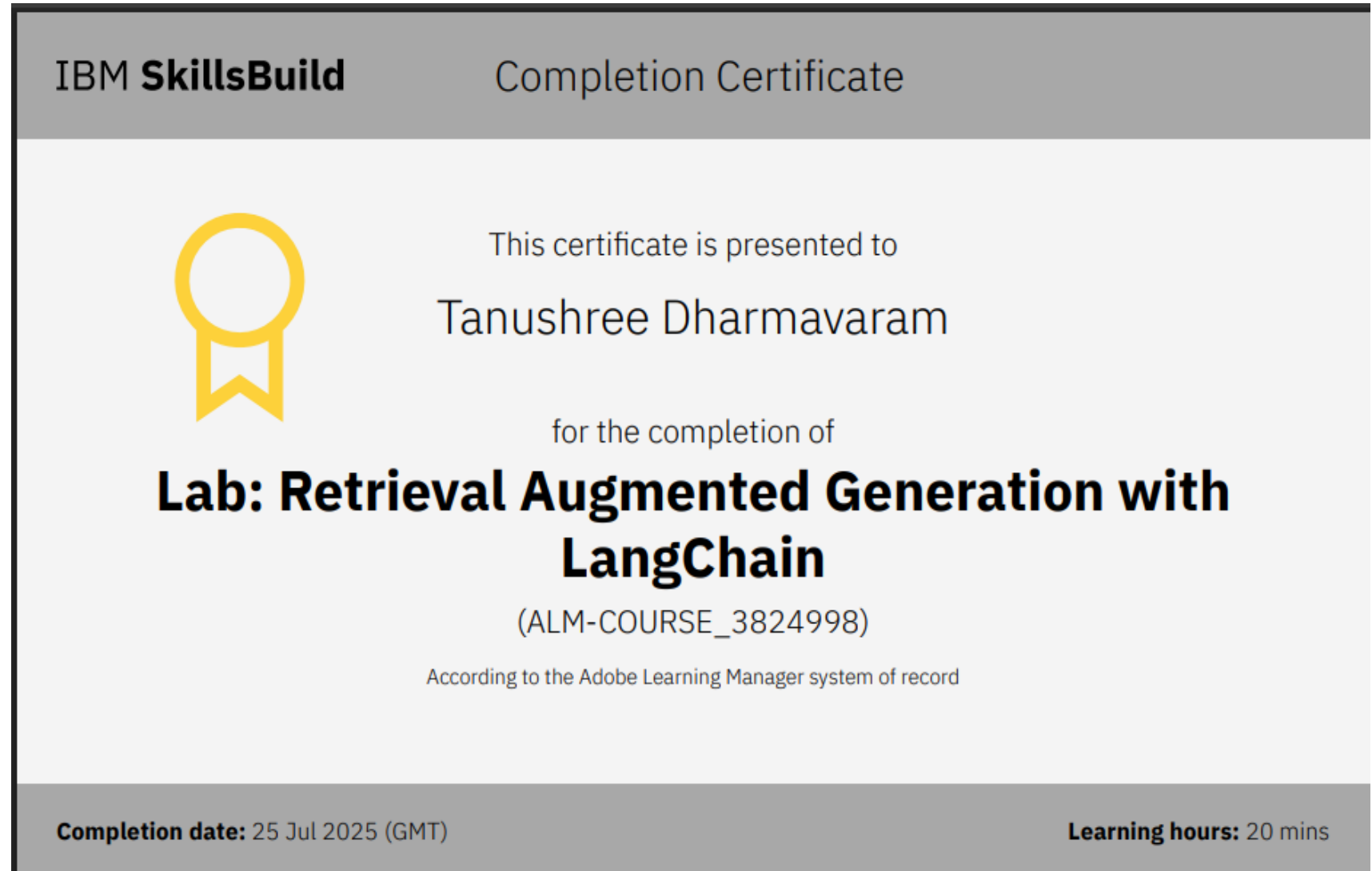
# IBM CERTIFICATIONS

Screenshot/ credly certificate  
( Journey to Cloud)



# IBM CERTIFICATIONS

Screenshot/ credly certificate  
( RAG Lab)





**THANK YOU**