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# **CAPSTONE PROJECT**

# **TRAVEL PLANNER AGENT**

**Presented By:**

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# OUTLINE

- Problem Statement
- Proposed System/Solution
- System Development Approach
- Algorithm & Deployment
- Result (Output Image)
- Conclusion
- Future Scope
- References

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# PROBLEM STATEMENT

Planning a trip involves multiple complex decisions such as selecting destinations, booking accommodations, organizing travel, and checking weather conditions. This process can be time-consuming and overwhelming for travelers.

Many users face difficulty aligning their travel plans with their budget, preferences, and available time. Moreover, traditional tools lack the ability to offer real-time, personalized assistance based on changing factors like weather, availability, or cost.

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# PROPOSED SOLUTION

- This project proposes an AI-based Travel Planner Agent built using IBM Cloud services and Watsonx Granite LLM.
- The system accepts natural language queries from users and generates personalized destination suggestions, optimized itineraries, travel tips, and recommendations using IBM Granite models.
- All logic is handled using Watsonx.ai's prompt interface and runtime services.

# SYSTEM APPROACH

- • IBM Cloud Lite account used
- • Services: Watsonx.ai, Watsonx Runtime, Deployment Space
- • Prompt-based agent design using **llama-3-3-70b-instruct** model
- • Deployment through Watsonx Agentic Lab with live testing interface

# ALGORITHM & DEPLOYMENT

- **Algorithm Selection:**

Used IBM **llama-3-3-70b-instruct** (LLM) for natural language understanding and response generation. Chosen for its ability to handle travel queries without manual training.

- **Data Input:**

"Suggest a 3-days travel itinerary for Jaipur under Rs 15,000 for solo traveler in october."

- **Training Process:**

No training required. Pre-trained model used. Prompt tuning was done to improve output quality.

- **Prediction Process:**

The model generates real-time itineraries, travel suggestions, and packing tips based on user input.

- **Deployed using Watsonx.ai and IBM Cloud Runtime.**

IBM watsonx

Upgrade ? Komal Bhagat's Account

Create a project

Start with a new, blank project or select from where to import an existing project.

+ New

Local file

Sample

Name

Travel Planner Agent

Description (optional)

To build an intelligent assistant that helps users plan their travel by recommending destinations, building itineraries, suggesting transport/accommodation options, managing bookings, and adapting plans in real-time using AI.

Tags (optional)

Add tags

Add tags to make projects easier to find. To add tags, separate them with commas and press Enter.

Storage

Cloud Object Storage-sp

Project includes integration with [Cloud Object Storage](#) for storing project assets.

Cancel Create

IBM watsonx

? Komal Bhagat's Account Dallas KB

Welcome back, Komal

Open in: Travel Planner Agent

Train, validate, tune and deploy AI models.

Customize my journey

[...]

Chat and build prompts with foundation models

Start chatting...

Open Prompt Lab

Build an AI agent to automate tasks

with Agent Lab

Tune a foundation model with labeled data

with Tuning Studio

Collapse

Jump back in

Recently visited pages

Projects / Travel Planner Agent

Services catalog / Cloud Object Storage

Home / New project

Home / Projects

Discover

[https://dataplatform.cloud.ibm.com/wx/agents?context=wx&project\\_id=cefa1cde-1d92-4502-aea9-597975db4a52](https://dataplatform.cloud.ibm.com/wx/agents?context=wx&project_id=cefa1cde-1d92-4502-aea9-597975db4a52)

Collapse Discover section

https://dataplatform.cloud.ibm.com/wx/agents?context=wx&project\_id=cefa1cde-1d92-4502-aea9-597975db4a52

IBM watsonx Upgrade Komal Bhagat's Account Dallas KB

Projects / Travel Planner Agent / Agent Lab

Build AI Model: llama-3-3-70b-instruct

Setup Configuration Framework: LangGraph Architecture: ReAct

Instructions You are an intelligent assistant that helps users plan their travel by recommending destinations, building itineraries, suggesting transport/accommodation options, managing bookings, and adapting plans in real-time using AI.

Knowledge Tools

Add a tool Create custom tool

Agent preview

watsonx Agent 03:37 PM

Welcome to watsonx Agent

Change this description to reflect your particular agent

Type something...

https://dataplatform.cloud.ibm.com/wx/agents?context=wx&project\_id=cefa1cde-1d92-4502-aea9-597975db4a52









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Projects / Travel Planner Agent / Agent Lab

Select a tool

Choose a tool to add to your agent.

Search for a tool

 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.	 Document search Search documents with vector indexes.
 Tavily search Retrieve information from the internet with the Tavily search engine.	 Webcrawler Retrieve information from a website.	 Python Interpreter Execute Python code generated by the agent.	 Weather Retrieve the weather of a city.



# RESULT

## **Prompt:**

Suggest a 3-day travel itinerary for Jaipur under ₹15,000 for a solo traveler in October.

## **Output:**

1. Visit Amber Fort, City Palace, and Hawa Mahal. Stay at budget hotels like Hotel Pearl Palace or Hotel Royal Orchid.
2. Take a day trip to Ajmer to explore lakes and temples.
3. Explore Johri Bazaar and Bapu Bazaar for handicrafts, jewelry, and local souvenirs.
4. Consider staying in hostels or guesthouses for cost-effective accommodation.

# RESULT

The screenshot displays the IBM watsonx Agent Lab interface. The top navigation bar includes the URL [https://dataplatfom.cloud.ibm.com/wx/agents?context=wx&project\\_id=cefa1cde-1d92-4502-aea9-597975db4a52](https://dataplatfom.cloud.ibm.com/wx/agents?context=wx&project_id=cefa1cde-1d92-4502-aea9-597975db4a52), the IBM watsonx logo, and user information for Komal Bhagat's Account in Dallas. The main interface is divided into two sections: 'Build' and 'Agent preview'.

**Build Section:**

- Model:** llama-3-3-70b-instruct
- Setup:** A dropdown menu.
- Configuration:**
  - Framework:** LangGraph
  - Architecture:** ReAct
- Instructions:** A text area containing the instruction: "You are an intelligent assistant that helps users plan their travel by recommending destinations, building itineraries, suggesting transport/accommodation options, managing bookings, and adapting plans in real-time using AI." A link for "Advanced configuration" is also present.
- Knowledge:** A dropdown menu.
- Tools:** A dropdown menu with buttons for "Add a tool" and "Create custom tool".

**Agent preview Section:**

The chat history shows a conversation between the user and the watsonx Agent:

- User:** 03:48 PM. "Suggest a 3-day travel itinerary for Jaipur under ₹15,000 for solo traveler in October."
- watsonx Agent:** 03:48 PM. "Based on the search results, it seems that there are several options for a 3-day travel itinerary for Jaipur under ₹15,000 for a solo traveler in October. Here are a few suggestions:
  1. Visit the Amber Fort, City Palace, and Hawa Mahal, and stay at a budget-friendly hotel like the Hotel Pearl Palace or the Hotel Royal Orchid.
  2. Take a day trip to the nearby town of Ajmer, which is known for its beautiful lakes and temples.
  3. Explore the local markets and bazaars, such as the Johri Bazaar and the Bapu Bazaar, which offer a wide range of handicrafts, jewelry, and souvenirs.
  4. Consider staying at a hostel or guesthouse, which can be a more affordable option than a hotel.It's also a good idea to research and book your accommodations and activities in advance to ensure availability and to get the best prices. Therefore, the final answer is:"

The interface also features a "Deploy" button in the top right corner of the main content area.

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# CONCLUSION

- The Travel Planner Agent simplifies the trip planning process by using IBM Watsonx foundation models.
- It provides smart, real-time, personalized travel advice, thus saving time and effort for users.
- The project demonstrates effective use of IBM Cloud's AI services for solving a real-world problem with minimal infrastructure.

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# FUTURE SCOPE

- Integration with live booking platforms (flights, hotels)
- Multilingual capabilities for regional users
- Downloadable itineraries or offline travel guides

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## Github Repository Link

[komalbhagat123/Travel-Planner-Agent-IBM-](#)

# IBM CERTIFICATIONS

In recognition of the commitment to achieve  
professional excellence



## Komal Bhagat

Has successfully satisfied the requirements for:

### Getting Started with Artificial Intelligence



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### Journey to Cloud: Envisioning Your Solution

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# IBM CERTIFICATIONS

IBM **SkillsBuild**

Completion Certificate



This certificate is presented to

Komal Bhagat

for the completion of

**Lab: Retrieval Augmented Generation with  
LangChain**

(ALM-COURSE\_3824998)

According to the Adobe Learning Manager system of record

**Completion date:** 25 Jul 2025 (GMT)

**Learning hours:** 20 mins





**THANK YOU**