

IBM HACKATHON PROJECT

TRAVEL AI AGENT

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OUTLINE

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

PROBLEM STATEMENT

Agentic AI for Personalized Course Pathways.

Students often struggle to identify the right learning path that aligns with their interests and long-term goals due to the overwhelming number of online courses and a lack of personalized guidance. LearnMate aims to solve this by acting as an Agentic AI coach that interacts with students, understands their interests (like Frontend Development, Cybersecurity, UI/UX Design, etc.), assesses their current skill level, and dynamically builds a personalized course roadmap that adapts over time based on progress and preferences.

Proposed Solution:

An Agentic AI Coach that uses Natural Language Processing (NLP), user modeling, and adaptive learning algorithms to guide students in selecting personalized learning paths, assess their current skills, generate dynamic course roadmaps, track progress, and continuously update recommendations based on evolving interests and performance.

TECHNOLOGY USED

- ❖ IBM cloud lite services
- ❖ Natural Language Processing (NLP)
- ❖ Retrieval Augmented Generation (RAG)
- ❖ IBM Granite model
- ❖ IBM Watson Assistant
- ❖ IBM Granite foundation models
- ❖ IBM Cloud Functions
- ❖ Watson Studio

IBM CLOUD SERVICES USED

- IBM Cloud Watsonx AI Studio
- IBM Cloud Watsonx AI runtime
- IBM Cloud Agent Lab
- IBM Granite foundation model

WOW FACTORS

This AI coach will revolutionize personalized learning by reducing course selection confusion, guiding students with real-time mentorship, accelerating skill development, and enabling goal-driven learning through intelligent, adaptive planning tailored to each learner's interests and progress.

Unique features:

- Conversational AI guidance powered by IBM Watson and Granite models
- Dynamic, skill-based learning path generation and adaptation
- Real-time progress tracking and course recommendations
- Integration with MOOCs, GitHub, and content platforms for curated learning
- Smart goal alignment: career suggestions based on learning progress
- Peer learning suggestions and project-based collaboration matching
- Motivation engine: nudges, reminders, and AI-generated feedback

END USERS

- Academic Researchers
- School and College Students
- Research Institutions and Universities
- Career Switchers and Lifelong Learners
- Educational Institutions and EdTech Platforms
- Academic Advisors and Mentors
- Educators

RESULTS

IBM watsonx

Upgrade ? Shrutika Hosakalle's Accou... London SH

Projects / Course_agent / Agent Lab

Share feedback Unsaved New agent + Deploy

Build

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

Framework

LangGraph

Architecture

ReAct

Instructions

When greeted, say "Hi, I am Course agent. How can I help you?"

I'm your Personalized Learning Pathway AI Coach, designed to make your course selection smart, easy, and tailored just for you. Whether you want to master frontend development, cybersecurity, UI/UX design, or any other skill, I'm here to guide you every step of the way.

Advanced configuration

Knowledge

Tools

Add a tool

Create custom tool

Added tools (1)

Google search

Retrieve information from the internet with the Google search engine.

Agent preview

Course Agent 10:53 PM

Welcome to Course Agent

Change this description to reflect your particular agent

Type something...

RESULTS

Agent preview

 You: 10:35 PM

What are the best courses to learn data science within 3 months?

 watsonx Agent 10:35 PM

Based on the search results, it appears that it is possible to learn data science within 3 months, but it would require a significant amount of dedication and effort. Here are some courses and resources that may be helpful:

1. Coursera's Data Science Specialization: This specialization, offered by Johns Hopkins University, covers the basics of data science, including R programming, statistical inference, and machine learning.
2. edX's Data Science Essentials: This course, offered by Microsoft, covers the basics of data science, including data visualization, machine learning, and statistical analysis.
3. DataCamp's Data Science with Python Track: This track, offered by DataCamp, covers the basics of data science with Python, including data manipulation, visualization, and machine learning.
4. Google's Data Analytics Professional Certificate: This certificate program, offered by Google, covers the basics of data analytics, including data visualization, statistical analysis, and machine learning.
5. Georgia Tech's Online Master of Science in Analytics: This degree program, offered by Georgia Tech, covers the basics of data science and analytics, including data visualization, machine learning, and statistical analysis.


Type something...



Agent preview

 You: 10:36 PM

How can I balance learning with my full-time job?


 watsonx Agent 10:36 PM

To balance learning with a full-time job, consider the following tips:


1. Set clear goals and priorities for your learning and work.
2. Create a schedule that allows you to dedicate specific times for learning and work.
3. Use your commute or breaks during the day to fit in learning sessions.
4. Take advantage of online courses or tutorials that can be completed at your own pace.
5. Communicate with your employer and colleagues about your learning goals and needs.
6. Eliminate distractions and minimize procrastination by creating a conducive learning environment.
7. Use time-management tools and apps to stay organized and focused.
8. Prioritize self-care and maintain a healthy work-life balance to avoid burnout.

Remember, balancing learning with a full-time job requires discipline, flexibility, and effective time management. By following these tips, you can achieve your learning goals while maintaining your work responsibilities.

► How did I get this answer?

 You: 10:37 PM

Will this course help me prepare for industry certifications?

 watsonx Agent 10:37 PM

Yes, this course can help you prepare for industry certifications. The course provides a comprehensive overview of the skills and knowledge required for various industry certifications, and it can help you develop the skills and confidence you need to pass the certification exams. Additionally, the course is designed to be flexible and adaptable to your needs, so you can learn at your own pace and focus on the areas that are most relevant to your career goals.

► How did I get this answer?

Type something...



RESULTS

[Projects](#) / [Course_agent](#) / Agent Lab

[Share feedback](#) β Unsaved 📁 ▼ [New agent](#) + [Deploy](#)

Build

AI Model: mistral-large ⚠️ ▼ ⚙️ <

How should the agent behave? What should it avoid doing?

Knowledge

Vector index [Clear chat](#)

Video transcript - How Large Language Models Work ▼

If you want to add a vector index to the agent, clear the agent preview chat.

Tools

[Add a tool](#) [Create custom tool](#)


Added tools (4)

Google search ⚙️ 🗑️


Retrieve information from the internet with the Google search engine.

DuckDuckGo search 🗑️

Agent preview

 You: 11:23 PM

give summary of document


 watsonx Agent 11:23 PM

The document discusses large language models (LLMs), specifically focusing on GPT (Generative Pre-trained Transformer). It explains that LLMs are a type of foundation model trained on vast amounts of unlabeled and self-supervised data, enabling them to generate human-like text. The document details the training process, where the model learns to predict the next word in a sentence by adjusting its internal parameters based on the data. It also mentions the concept of fine-tuning, where the model is further trained on a smaller, specific dataset to perform particular tasks accurately.

The document highlights the business applications of LLMs, such as creating intelligent chatbots for customer service, generating content like articles and social media posts, and assisting in software development by generating and reviewing code. It emphasizes the potential for discovering more innovative applications as LLMs continue to evolve.

Overall, the document provides a comprehensive overview of what LLMs are, how they work, and their practical applications in various fields.

► How did I get this answer?



Type something...

🗑️

RESULTS

Deployed AI Agent

The screenshot displays the IBM Watsonx user interface. At the top, the navigation bar includes the IBM Watsonx logo, an 'Upgrade' button, and user account information for 'Shrutika Hosakalle's Account'. The breadcrumb trail indicates the current location: 'Deployment spaces / course_deploy / Sous Chef /'. The main content area features the 'Course Agent' card, which is marked as 'Deployed' and 'Online'. Below the card name are tabs for 'API reference', 'Test', and 'Preview', with the 'Preview' tab currently selected. The preview area shows a chat interface with a welcome message from 'Course Agent' at 10:46 PM, stating its purpose is to generate recipe ideas. A diagram of a kitchen layout is also visible. At the bottom of the chat area is a 'Quick start samples' input field with the placeholder text 'type something...'. To the right of the chat area is a sidebar containing detailed information about the agent, including its description, deployment details (ID, serving name, software and hardware specifications, and copies), tags ('wx-agent'), associated asset ('Sous Chef'), and modification/creation timestamps.

IBM watsonx Upgrade ? Shrutika Hosakalle's Account London SH

Deployment spaces / course_deploy / Sous Chef /

Course Agent Deployed Online

API reference Test **Preview**

New chat +

Course Agent 10:46 PM

Welcome to Course Agent

Generating tasty recipe ideas based on the ingredients they have available.

Quick start samples

type something...

Description

Generating tasty recipe ideas based on the ingredients they have available.

Deployment Details

Deployment ID: c645a2b8-83d2-42...

Serving name: No serving name.

Software specification: runtime-24.1-py3.11

Hardware specification: Extra extra small: 1 CPU and 2 GB RAM

Copies: 1

Tags

wx-agent

Associated asset

Sous Chef

db2e1337-8bbf-45bf-bfbb-55839ee1d44c

Last modified 9 seconds ago by Shrutika Hosakalle

Created on Aug 2, 2025

CONCLUSION

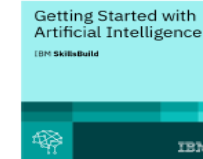
- The agent can generate personalized learning paths, adapt recommendations in real-time, and guide students through their skill-building journey.
- It saves time by automating course discovery, tracking progress, and aligning learning with career goals.
- Agentic AI enhances personalization, motivation, and learning outcomes, making education more efficient, engaging, and future-ready.

FUTURE SCOPE

- Multilingual Research Support
- Voice-Enabled AI Learning Assistant
- Real-Time Peer Collaboration and Group Projects
- Goal-Aligned Career and Internship Matching
- Integration with Resume Builders and Job Portals
- AI-Assisted Portfolio and Project Showcase Generation

IBM CERTIFICATIONS

In recognition of the commitment to achieve
professional excellence



Shrutika Hosakalle

Has successfully satisfied the requirements for:

Getting Started with Artificial Intelligence



Issued on: Jul 18, 2025
Issued by: IBM SkillsBuild

Verify: <https://www.credly.com/badges/6f2f593d-b440-4269-82d4-24a0c9a609f7>



RAG CERTIFICATE

7/24/25, 6:31 PM

Completion Certificate | SkillsBuild

IBM SkillsBuild

Completion Certificate



This certificate is presented to

Shrutika Hosakalle

for the completion of

Lab: Retrieval Augmented Generation with LangChain

(ALM-COURSE_3824998)

According to the Adobe Learning Manager system of record

Completion date: 23 Jul 2025 (GMT)

Learning hours: 20 mins

GITHUB LINK

- Make sure that there should be readme file



THANK YOU