
IBM INTERNSHIP PROJECT

LEARNMATE AI

AI coach that builds and updates personalized learning paths based on skills and interests.

Presented By -

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OUTLINE

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- Wow factor
- End users
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- Future scope
- IBM Certifications

PROBLEM STATEMENT

Students often struggle to find the right learning path due to an overwhelming number of online resources and lack of personalized guidance.

Proposed Solution:

LearnMate is an agentic AI coach that interacts with students, understands their interests and skill levels, and builds a dynamic, evolving roadmap of courses aligned with their goals.

TECHNOLOGY USED

- IBM Cloud Lite Services
- IBM Watsonx.ai Studio
- Granite Foundation Model
- LangGraph Framework
- ReAct Architecture (Reasoning + Acting)
- IBM Cloud Functions
- IBM Cloudant (for storing profiles & progress)

IBM CLOUD SERVICES USED

- Watsonx.ai Studio (LLM prompt design + deployment)
- Watsonx.ai Agent Builder
- Granite-13b-chat-v2 foundation model
- IBM Cloudant (vector data storage)
- IBM Cloud Functions (logic engine)

WOW FACTORS

LearnMate significantly reduces the time and effort students spend navigating vast online learning resources. It enhances the quality of self-learning by providing structured, personalized roadmaps tailored to individual goals and skill levels. This AI-powered agent empowers learners with clarity, direction, and adaptability, fostering continuous upskilling and career alignment.

Unique features:

- Personalized course pathways based on interests, skill level, and career goals
- Real-time skill assessment and dynamic roadmap adjustments
- AI-curated course recommendations from trusted learning platforms
- Progress-aware learning plans that evolve with the user
- Domain-specific learning (e.g., Cybersecurity, Frontend Development, UI/UX)
- Roadmap regeneration based on completed tasks or updated preferences

END USERS

- Students and Self-learners
- Career Switchers
- Colleges and Universities
- EdTech Platforms

RESULTS



LearnMate AI 12:05 PM

Welcome to LearnMate AI

I coach that builds and updates personalised learning paths based on skills and interests.



Quick start samples

How do I start a career in frontend development?



Can you recommend courses for cybersecurity beginners?



I already know Python, what should I learn next?



Help me build a roadmap for UI/UX design.



Type something...



RESULTS



You 12:08 PM

How do I start a career in frontend development?



LearnMate AI 12:08 PM

That's a great career choice! To start a career in frontend development, you'll need to build a solid foundation in HTML, CSS, and JavaScript. Here's a progressive learning roadmap:

1. **HTML & CSS Basics:** Start with understanding the structure of web pages using HTML and styling them with CSS.

- Course Recommendation: "HTML & CSS for Beginners" on Coursera or "Learn HTML and CSS" on freeCodeCamp.

2. **Intermediate HTML & CSS:** Once you're comfortable with the basics, move on to more advanced topics like responsive design, flexbox, and grid.

- Course Recommendation: "Responsive Web Design" on Udacity.

3. **JavaScript Fundamentals:** Learn the core concepts of JavaScript, including variables, data types, functions, loops, and control structures.

- Course Recommendation: "JavaScript: Understanding the Weird Parts" on Udemy.

4. **ES6+ JavaScript:** Familiarize yourself with modern JavaScript features like arrow functions, promises, async/await, and destructuring.

- Course Recommendation: "Modern JavaScript Tutorial" on The Net Ninja's YouTube channel.

Type something...



RESULTS



You 12:10 PM

Can you recommend courses for cybersecurity beginners?



LearnMate AI 12:10 PM

Absolutely, I'd be happy to help you with that. To provide the best recommendations, I need to understand your current knowledge level in cybersecurity. Could you tell me if you have any prior experience or if you're starting from scratch?



You 12:10 PM

beginner



LearnMate AI 12:10 PM

Great, as a beginner in cybersecurity, you'll want to start with foundational courses that cover the basics. Here's a suggested learning roadmap:

1. **Introduction to Computer Science and Programming:** This will help you understand the basics of how computers work and how to write code, which is crucial in cybersecurity. You can find such courses on platforms like Coursera or edX.
2. **Cybersecurity Fundamentals:** Once you have a grasp of basic computer science, you can move on to cybersecurity fundamentals. A course like "Introduction to Information Security" on Coursera by University of Maryland is a good starting point.
3. **Network Security:** Understanding how networks function and how to secure them is a key aspect of cybersecurity. A course like "Computer Networks" on Coursera by University of Michigan can be helpful.

Type something...



RESULTS

Deployed AI Agent

The screenshot displays the IBM Watsonx user interface. At the top, the header shows 'IBM watsonx' on the left, 'Upgrade' and help icons in the center, and 'Niket Gupta's Account' and 'Dallas' on the right. Below the header, the breadcrumb navigation reads 'Deployment spaces / LearnMate AI / LearnMate AI /'. The main content area features the 'LearnMate AI' agent name with a green 'Deployed' status and an 'Online' indicator. There are three tabs: 'API reference', 'Test', and 'Preview', with 'Preview' being the active tab. A 'New chat +' button is located in the top right of the chat area. The chat history shows a conversation where the user asks for cybersecurity course recommendations, and the AI agent responds by asking for the user's knowledge level. The user replies 'beginner', and the AI agent provides a suggested learning roadmap starting with 'Introduction to Computer Science and Programming'.

IBM watsonx Upgrade ? ? Niket Gupta's Account Dallas NS

Deployment spaces / LearnMate AI / LearnMate AI /

LearnMate AI Deployed Online

API reference Test **Preview**

New chat +

You 12:10 PM
Can you recommend courses for cybersecurity beginners?

LearnMate AI 12:10 PM
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You 12:10 PM
beginner

LearnMate AI 12:10 PM
Great, as a beginner in cybersecurity, you'll want to start with foundational courses that cover the basics. Here's a suggested learning roadmap:

1. **Introduction to Computer Science and Programming:** This will help you understand the basics of how computers work

Type something...

CONCLUSION

- LearnMate enhances student learning experiences by providing structured, AI-curated course plans.
- It minimizes confusion, saves time, and empowers users to stay on track in their upskilling journey.

GITHUB LINK

<https://github.com/NiketGupta06/LearnMate-AI>

FUTURE SCOPE

- Voice-based interactions (multimodal agent)
- Integration with real APIs (Coursera, edX, etc.)
- Real-time progress tracking dashboard
- Memory-based personalization (long-term profile history)
- Support for regional languages

IBM CERTIFICATIONS



IBM **SkillsBuild**

Completion Certificate



This certificate is presented to

Niket Gupta

for the completion of

**Lab: Retrieval Augmented Generation with
LangChain**

(ALM-COURSE_3824998)

According to the Adobe Learning Manager system of record

Completion date: 26 Jul 2025 (GMT)

Learning hours: 20 mins

THANK YOU

Guiding learning paths with AI — one student at a time.