# **CAPSTONE PROJECT**

# COLLEGE ADMISSION AGENT (RAG BASED)

#### **Presented By:**

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College Name & Department: AI&DS Department,

**Terna Engineering College** 



# **OUTLINE**

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



# PROBLEM STATEMENT

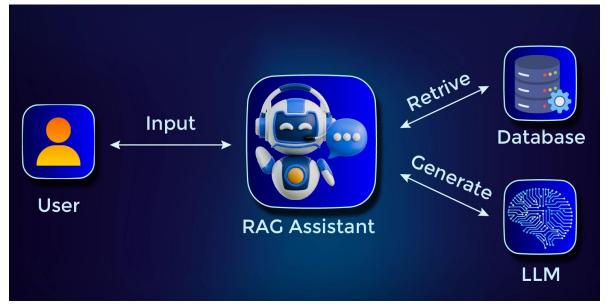
- Many students and parents struggle to get clear, timely answers about college admissions.
  Information is often scattered across multiple sources, leading to confusion and missed deadlines.
  Admission offices also spend a lot of time responding to repetitive queries.
- **Our Proposed Solution:** We're building a *College Admission AI Agent, ApplyWise;* powered by Retrieval-Augmented Generation (RAG). It pulls information directly from official college databases and policies, then uses AI to deliver instant, accurate answers to students' questions—helping with course selection, eligibility checks, fee details, and application guidance.



# TECHNOLOGY USED

- •RAG Architecture: Combines document retrieval with generative AI for precise, context-aware answers.
- •**IBM Cloud Lite Services:** Infrastructure for scalable deployment and secure data handling.
- •IBM Granite Model: Core LLM for natural language understanding and response generation.
- •Database Connectors: Retrieve real-time admission policies, course details, and deadlines.







# IBM CLOUD SERVICES USED

- IBM Cloud Watsonx AI Studio
- IBM Cloud Watsonx AI runtime
- IBM Cloud Agent Lab
- IBM Granite foundation model
- Provided model : llama-3-2-90b-vision-instruct



# **WOW FACTORS**

Unlike static FAQ pages or chatbots with pre-set answers, our agent can handle complex, multi-step questions instantly. It summarizes large documents, provides personalized guidance, and ensures students always have the latest, most reliable information—all in a conversational experience.

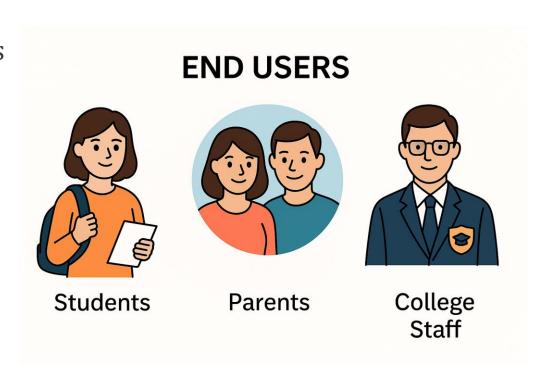
#### Unique features:

- **Real-Time, Verified Information** Unlike generic chatbots, this agent retrieves answers directly from official college databases and documents, ensuring responses are always accurate and up to date.
- Personalized, Multi-Document Summaries Handles complex queries (e.g., "Which programs can I apply to with a 3.5 GPA and what are the fees?") by searching multiple sources and giving tailored, concise summaries.
- Seamless Conversational Guidance Provides step-by-step help for the entire admission journey—from course selection to application submission—mimicking a human admission counselor.
- Efficiency for Colleges Reduces repetitive inquiries for staff by automating FAQs and eligibility checks, freeing them to focus on higher-value tasks like counseling and decision-making.



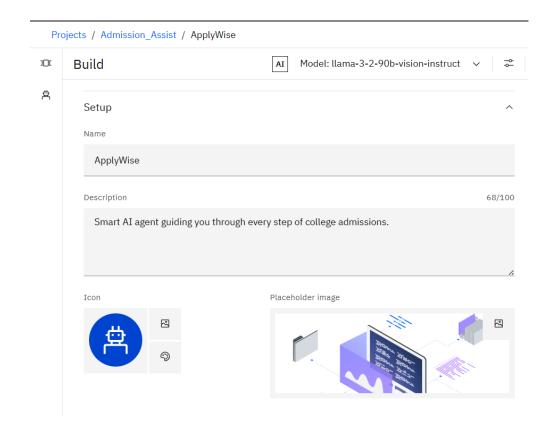
# **END USERS**

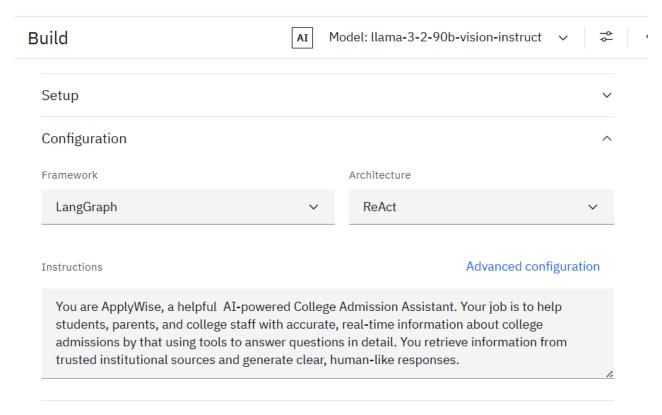
- Prospective Students: Get instant, reliable answers about admissions.
- Parents/Guardians: Understand fee structure and deadlines.
- College Administrators: Reduced repetitive inquiries, better resource allocation.





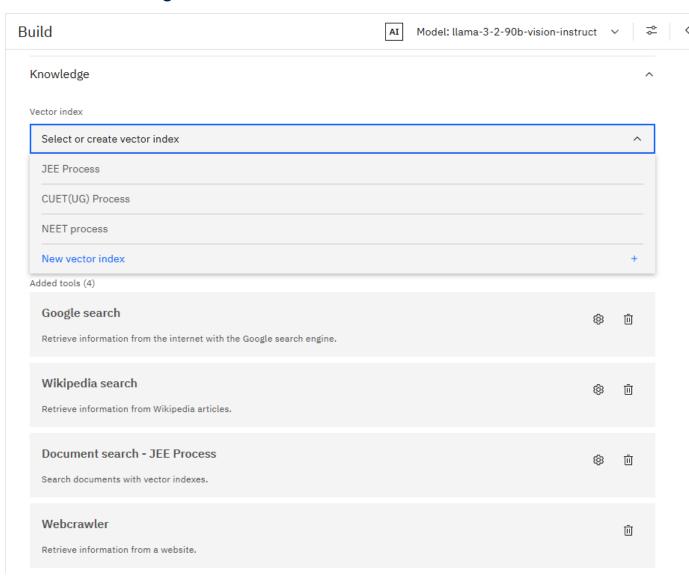
#### Setting Up the IBM Agent Lab





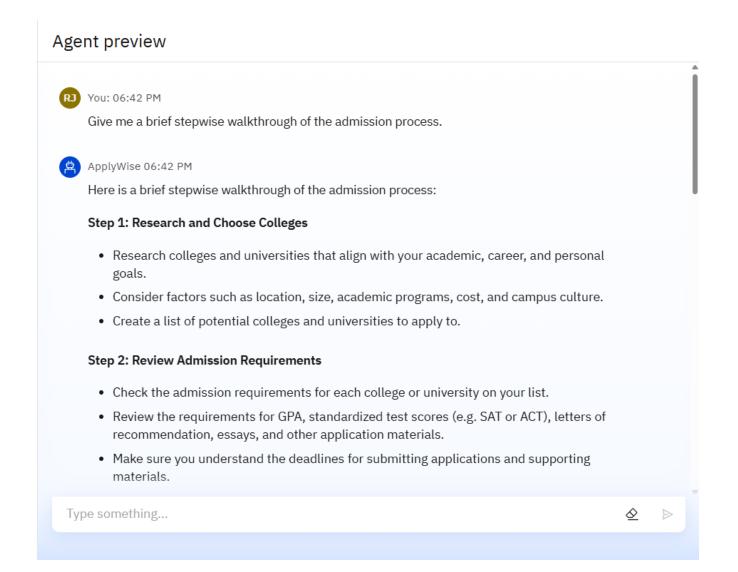


#### Adding Tools & Resources for RAG Database



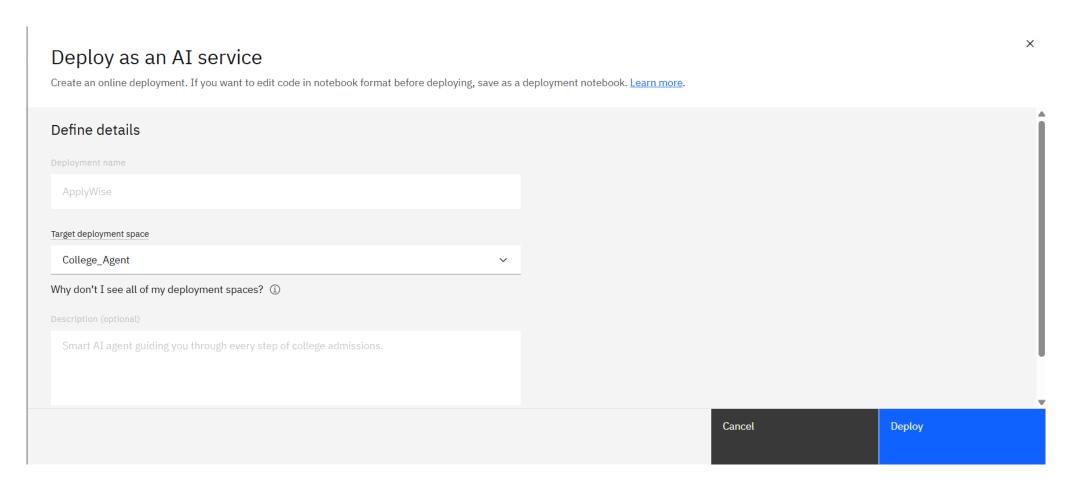


#### Testing Agent with sample questions



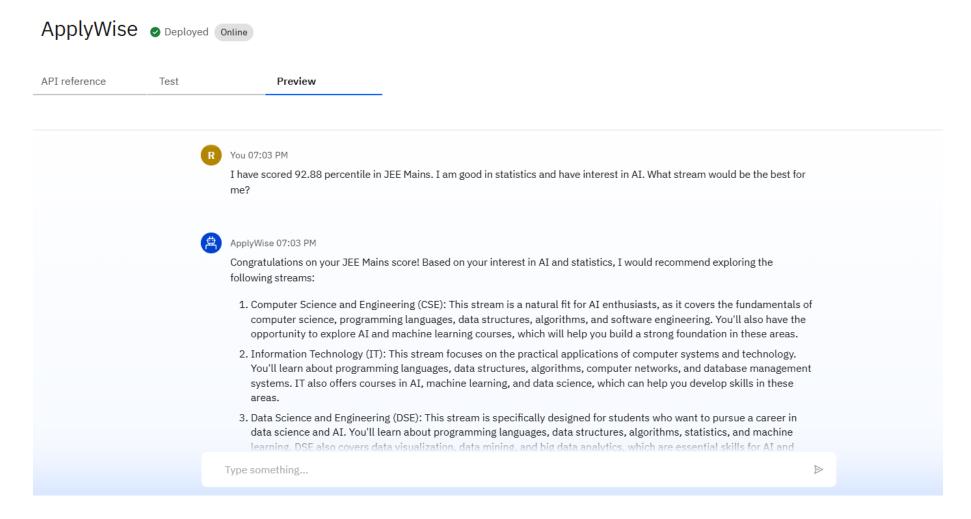


#### Deploying the agent





#### Final Deployed Agent





#### **CONCLUSION**

- The ApplyWise College Admission Agent shows how AI can transform the admissions process;
  making it more transparent, accessible, and efficient for everyone involved.
- By combining RAG with IBM's technology, we're bridging the gap between students and institutions with trustworthy, real-time support.



# **GITHUB LINK**

• GitHub link: <a href="https://github.com/rxshoumoun/College-Admission-RAG-AI-Agent">https://github.com/rxshoumoun/College-Admission-RAG-AI-Agent</a>



# **FUTURE SCOPE**

- Adding multilingual support to help international applicants.
- Linking directly to application portals for end-to-end guidance.
- Using predictive analytics to help colleges forecast enrollment.
- Expanding to cover scholarships, counseling, and college recommendations.



# **IBM CERTIFICATIONS**

In recognition of the commitment to achieve professional excellence



# Rohan Jadhav

Has successfully satisfied the requirements for:

Journey to Cloud: Envisioning Your Solution



Issued on: Jul 19, 2025 Issued by: IBM SkillsBuild

Verify: https://www.credly.com/badges/b7922179-471f-4cca-9423-540b60d0eeac





# **IBM CERTIFICATIONS**

IBM SkillsBuild

**Completion Certificate** 



This certificate is presented to

Rohan Jadhav

for the completion of

# Lab: Retrieval Augmented Generation with LangChain

(ALM-COURSE\_3824998)

According to the Adobe Learning Manager system of record

Completion date: 24 Jul 2025 (GMT)

**Learning hours:** 20 mins



# **THANK YOU**

