
CAPSTONE PROJECT

COLLEGE ADMISSION AGENT (RAG BASED)

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OUTLINE

- **Problem Statement**
- **Technology used**
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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.

END USERS



Students



Parents



College
Staff

RESULTS

Setting Up the IBM Agent Lab

Projects / Admission_Assist / ApplyWise

Build

AI Model: llama-3-2-90b-vision-instruct

Setup


Name



ApplyWise

Description 68/100


Smart AI agent guiding you through every step of college admissions.

Icon





Placeholder image



Build

AI

Model: llama-3-2-90b-vision-instruct



Setup



Configuration



Framework

Architecture

LangGraph



ReAct



Instructions

[Advanced configuration](#)

You are ApplyWise, a helpful AI-powered College Admission Assistant. Your job is to help students, parents, and college staff with accurate, real-time information about college admissions by that using tools to answer questions in detail. You retrieve information from trusted institutional sources and generate clear, human-like responses.

RESULTS

Adding Tools & Resources for RAG Database

Build

AI

Model: llama-3-2-90b-vision-instruct

Knowledge

Vector index

Select or create vector index

JEE Process

CUET(UG) Process

NEET process

New vector index

Added tools (4)

Google search

Retrieve information from the internet with the Google search engine.

Wikipedia search

Retrieve information from Wikipedia articles.

Document search - JEE Process

Search documents with vector indexes.

Webcrawler

Retrieve information from a website.

RESULTS

Testing Agent with sample questions

Agent preview



You: 06:42 PM

Give me a brief stepwise walkthrough of the admission process.



ApplyWise 06:42 PM

Here is a brief stepwise walkthrough of the admission process:

Step 1: Research and Choose Colleges

- Research colleges and universities that align with your academic, career, and personal goals.
- Consider factors such as location, size, academic programs, cost, and campus culture.
- Create a list of potential colleges and universities to apply to.

Step 2: Review Admission Requirements

- Check the admission requirements for each college or university on your list.
- Review the requirements for GPA, standardized test scores (e.g. SAT or ACT), letters of recommendation, essays, and other application materials.
- Make sure you understand the deadlines for submitting applications and supporting materials.

Type something...



RESULTS

Deploying the agent

Deploy as an AI service

Create an online deployment. If you want to edit code in notebook format before deploying, save as a deployment notebook. [Learn more.](#)

Define details

Deployment name

ApplyWise

Target deployment space

College_Agent

Why don't I see all of my deployment spaces? ⓘ

Description (optional)

Smart AI agent guiding you through every step of college admissions.

Cancel

Deploy

RESULTS

Final Deployed Agent

ApplyWise  Deployed Online

API reference

Test

Preview



You 07:03 PM

I have scored 92.88 percentile in JEE Mains. I am good in statistics and have interest in AI. What stream would be the best for me?



ApplyWise 07:03 PM

Congratulations on your JEE Mains score! Based on your interest in AI and statistics, I would recommend exploring the following streams:

1. Computer Science and Engineering (CSE): This stream is a natural fit for AI enthusiasts, as it covers the fundamentals of computer science, programming languages, data structures, algorithms, and software engineering. You'll also have the opportunity to explore AI and machine learning courses, which will help you build a strong foundation in these areas.
2. Information Technology (IT): This stream focuses on the practical applications of computer systems and technology. You'll learn about programming languages, data structures, algorithms, computer networks, and database management systems. IT also offers courses in AI, machine learning, and data science, which can help you develop skills in these areas.
3. Data Science and Engineering (DSE): This stream is specifically designed for students who want to pursue a career in data science and AI. You'll learn about programming languages, data structures, algorithms, statistics, and machine learning. DSE also covers data visualization, data mining, and big data analytics, which are essential skills for AI and

Type something...



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: <https://github.com/rxshoumoun/College-Admission-RAG-AI-Agent>

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





THANK YOU