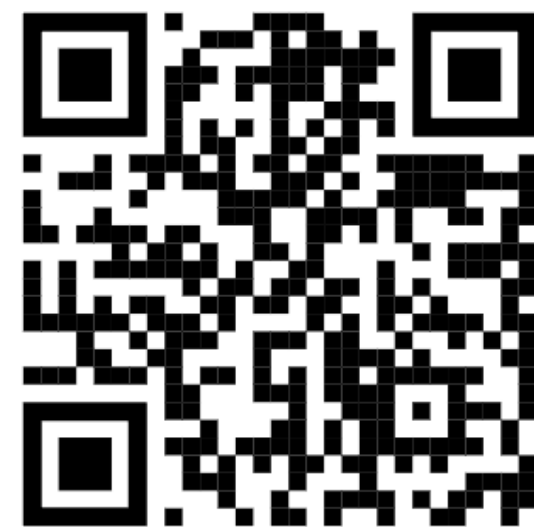


AI CHATBOT for CAREER SERVICES

TSTACK

Nguyen Viet Son | Hoang Quoc Dat | Tran Minh Chau | Nguyen Phan Chau Anh



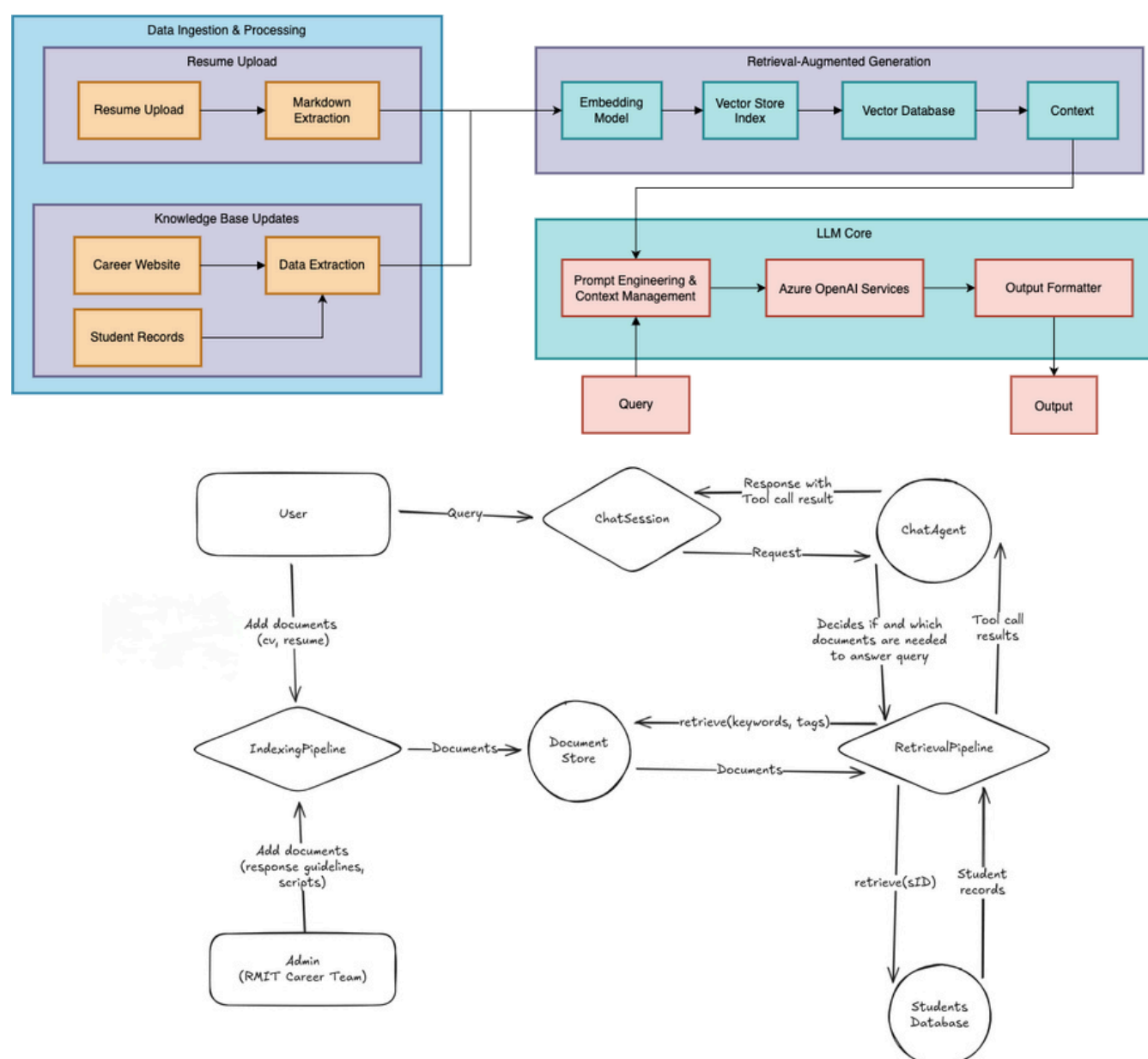
BACKGROUND & INCENTIVES

RMIT University's **growing student and alumni community** has **created rising demand** for timely and personalized **career support**. The Career Services team might faces challenges in **managing hundreds of inquiries** daily, especially those received outside office hours, leading to **slow response times** and **heavy staff workload**. To address this, we are developing an **AI-powered Career Services Chatbot** that provides round-the-clock, scalable, and personalized guidance exclusively for RMIT students.

OBJECTIVES

Key features include answering FAQs, mapping courses to career pathways, recommending events, analyzing resumes, and scheduling advisor appointments. The system supports multimodal inputs like resume file uploads for broader accessibility. This solution **reduces response latency**, **enhances efficiency**, and **allows human advisors** to focus on **high-impact career counseling**. By combining innovation with inclusivity, the chatbot positions RMIT as a leader in **AI-driven educational support**, empowering students to take ownership of their career development while **ensuring long-term scalability** and compliance with **data privacy** standards.

METHODOLOGY



The proposed system integrates **data ingestion**, **knowledge base updates**, and **retrieval-augmented generation (RAG)** to deliver scalable, personalized, and efficient career support. Data ingestion begins with resumes uploaded by students, which are converted into structured markdown files. At the same time, updates from career websites and student records are extracted to ensure the knowledge base remains accurate and current.

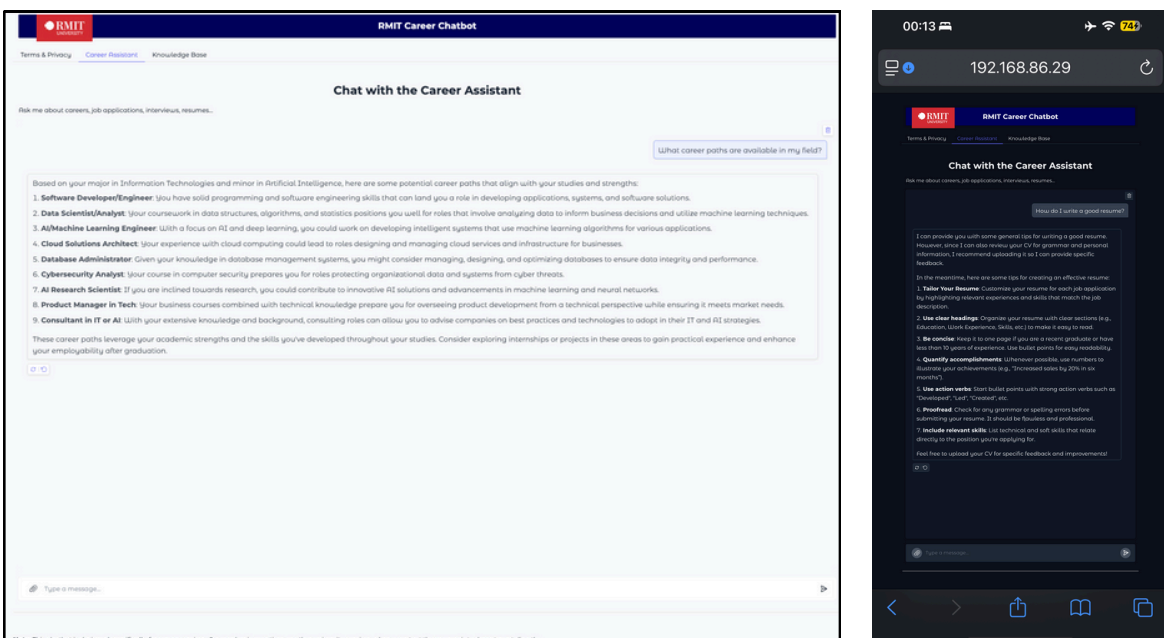
This data is processed through the **RAG pipeline**, where embedding models transform documents into vector representations, stored in a vector database for semantic search. Relevant context is then passed to the **LLM core**, where prompt engineering, Azure OpenAI services, and output formatting create precise and tailored responses.

Unlike **traditional Chains-based architectures**, this system shifts to **LLM agents** with tool-use capabilities. Agents can decide dynamically whether documents, student records, or external tools are needed to best answer a query. This not only improves response accuracy but also enables **horizontal scaling**, making it easier to update and expand the system with new tools or datasets. By delegating decision-making to agents, the platform becomes more adaptable and capable of handling complex, real-world queries.

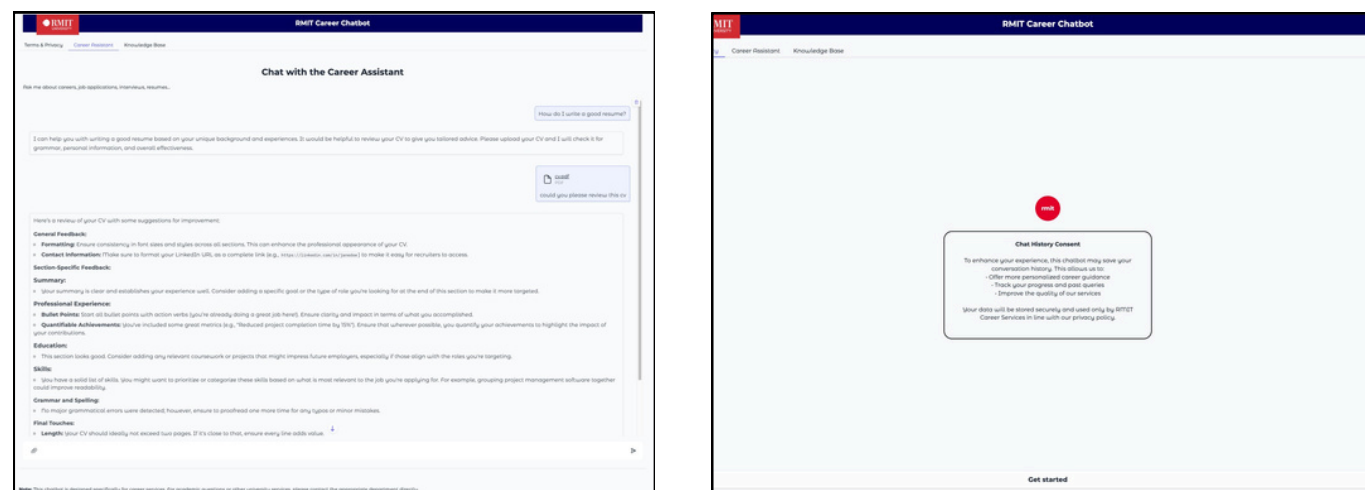
On the user-facing side, students can upload resumes or submit queries, while the career team contributes additional resources such as response guidelines and scripts. These are indexed and stored for retrieval. When a student query arrives, the **chat agent evaluates what resources are needed**, which drawn from the document store, student database, or knowledge base, then **formulates the best possible response**.

Ultimately, this design reduces staff workload while ensuring that students receive timely, personalized, and contextually relevant career support. The use of **LLM agents and tool integration** not only enhances flexibility and decision-making but also lays the foundation for continuous updates and future expansion of the system.

EXAMPLE GENERATION



EXPERIMENT & RESULTS



The system demonstrated its ability to **handle diverse student queries** and **integrate multiple data sources**. Key features such as resume ingestion, vector-based retrieval, and agent-driven decision-making worked together seamlessly to generate accurate and context-aware responses. When students uploaded resumes, the system was able to extract and embed the content, making it retrievable for future queries.

The **LLM agent** consistently selected the right tools whether accessing the vector database, student records, or knowledge base, to provide precise and timely answers. Tests also showed that the chatbot could scale effectively, handling simultaneous queries without compromising performance.

These results confirm that the system not only reduces staff workload but also delivers personalized, reliable, and scalable support to students, validating its effectiveness as a career guidance solution.

CONCLUSION & FINDINGS

Overall, the AI-powered career chatbot provides a valuable support system for the student community. By delivering timely and personalized guidance, it helps students navigate their career paths with greater confidence and clarity. The chatbot reduces response delays, ensures consistency in advice, and makes resources accessible around the clock—empowering students to plan their academic and professional journeys more effectively. Its ability to integrate resumes, student records, and institutional knowledge means that each interaction is tailored to the individual's needs. Beyond easing the workload of the career team, the system fosters a more supportive and connected learning environment. In doing so, it enhances not only career readiness but also overall student success at RMIT.