Simplifying the College Registration Process with an AI Chatbot

Introduction

For students, college registration can be a daunting process with impending deadlines, course prerequisites, and administrative challenges. In addition, due to the high workloads of university staff, delays in responses can lead to student frustration and missed deadlines. To address this issue, we are developing an AI-powered chatbot to provide university students with personalized support to navigate the registration process. By utilizing Retrieval-Augmented Generation (RAG), Large Language Models (LLMs), and Multi-Modal data integration, the chatbot helps improve accessibility and streamline registration processes.

Methodology

The chatbot is developed using the latest AI LLM technologies, including LangChain, Ollama, and ChromaDB. Using techniques drawn from RAG research, our methods ensure that the chatbot retrieves relevant and accurate information from the existing admissions documentation and helps to prevent common hallucination problems. Finally, using a user-friendly web interface, our chatbot allows students 24/7 assistance with common admissions questions.

By conversing with the chatbot, students will be provided with step-by-step registration assistance, including checklists and action items specific to a students' needs, automated deadline reminders, and prerequisite verification to ensure that students know what requirements they should meet before registering for their courses.

Results and Discussion

In our current implementation, students use a text-based query interface, and testing has shown that generated responses are well-aligned to existing registration documentation and do not easily hallucinate incorrect or irrelevant information. In addition, our web interface allows for update of the registration documentation and policies at any time by non-technical users.

As we continue this work, we plan to refine our implementation and finalize the core functionalities with an optimized user interface, including conversation histories and speech recognition. In addition, we plan to perform user testing with students, faculty, and staff to gather feedback and further refine the chatbot.

Conclusion

Ultimately, with continued research and development, this AI-powered chatbot will assist in improving current registration processes by offering students accessible and realtime support while also reducing administrative workload by providing students with an avenue to answer common questions. By improving the registration process, we hope that such AI technologies will provide a significant impact for helping to strengthen the university at large.