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Building a Chatbot for Student Consultants

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Introduction

For over twenty years, my primary role at the UIUC Library has been to provide research support for student consulting teams. In recent years, like many business librarians, I have been seeking opportunities to incorporate AI into my work to address instructors' and students' wishes for more student interaction with AI.

In Summer 2025, the University's Center for Artificial Intelligence Innovation released Illinois Chat (Center for Artificial Intelligence Innovation, 2025), providing a secure portal for university faculty, staff, and students to experiment with creating their own chatbots. As the portal's documentation explains, the "top use case" envisioned by the developers is an "AI Teaching Assistant," meaning instructors could "create a virtual assistant for [their] courses that provides expert answers, cites sources, and encourages students to explore primary documents" (Quick start, 2025).

In August 2025, I decided to create a chatbot to enhance my research support for student consultants. Below, I describe my decisions and experiences so far and my future plans for the chatbot, which I have named the "Business Experiential Learning Library Assistant," or BELLA.

Rationales for Making a Chatbot

Two key Illinois Chat features prompted me to consider building a chatbot. First, Illinois Chat offers "control over … information sources" (Quick start, 2025). Second, Illinois Chat builds in "source citations, allowing you to click through and trace back to the documents" (Quick start, 2025). Combined, these features would allow me to restrict my chatbot's reference materials to only the documents I curated. Students could then access those documents to gain perspective into how well the chatbot's recommendations aligned with the source materials I provided, which could be useful in promoting AI literacy.

Beyond these considerations, I have long needed to "scale" my support for students. At the start of Fall 2025, the primary population I support was over 650 student consultants, representing over 100 client-based consulting teams. It is impossible to assist them all simultaneously when their research activities begin, and in past semesters, teams have waited weeks for an appointment with me. Maybe a chatbot using documents I provided could get students past temporary blocks until I could meet with them? Similarly, I thought the chatbot could be available to students at times when I would not be, for example, when I am otherwise engaged in consultations or instruction, or during late nights or weekends.

Choosing the Scope and Documents

Choosing a scope for BELLA was an important first consideration, since the scope would define the bot's purpose, which would then help me decide what tasks to prompt BELLA to perform and which information and knowledge to incorporate into its reference materials. I chose to make BELLA's scope the same as mine as a business librarian: recommend resources and research strategies for students to pursue on their own. BELLA was specifically scoped to assist in the early secondary research stages of consulting projects when teams are doing background research on the client and industry, and there is a relatively focused list of resources (Phillips,

2024) and research strategies to recommend. I explain in the introductory greeting page (Figure 1) that BELLA "is here to suggest resources for your consulting project research. BELLA cannot access the library's databases and does not know the contents of articles or reports, but can recommend databases and report titles for you to access" through the library's website.

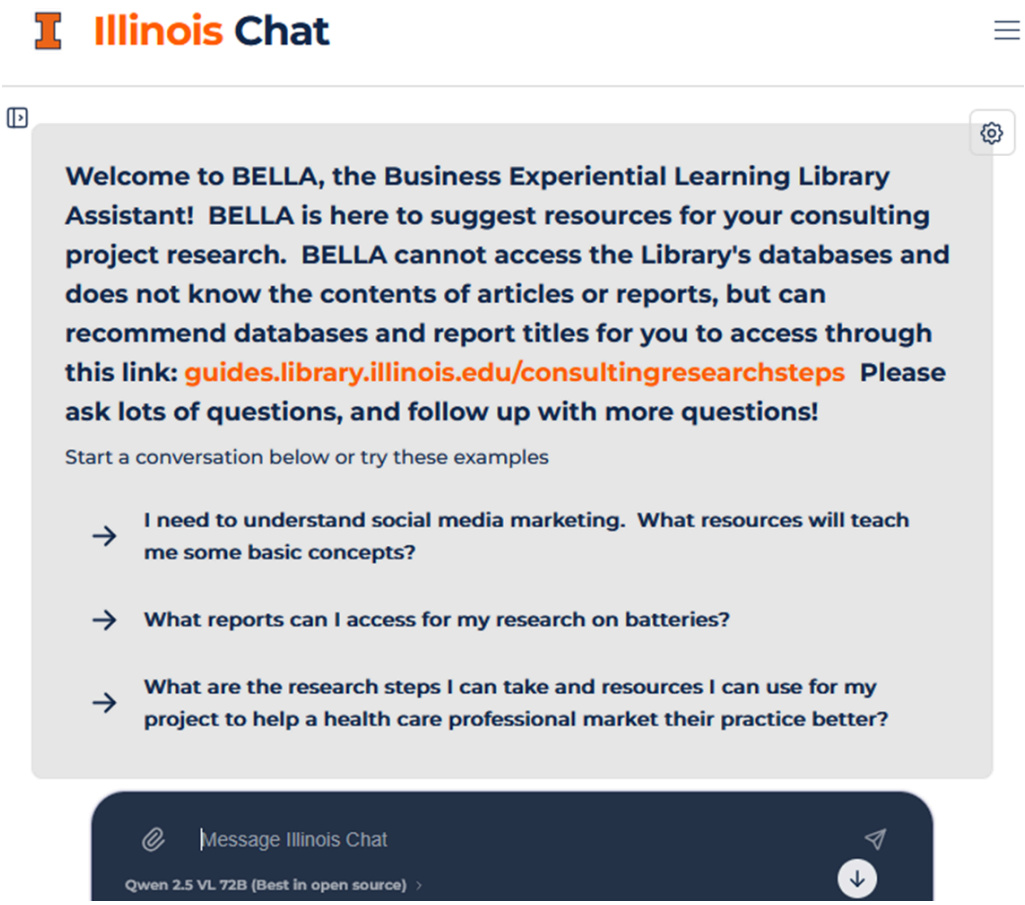

Figure 1. Illinois Chat. Welcome Page for BELLA.

So far, the documents I have created have fallen into three categories. First, while Illinois Chat can ingest public webpages directly, I have chosen to instead create title lists of only the journals and reports our students can access. Second, I have included my library guide, "Research Steps for Client-Based Projects" (Phillips, 2025), which gives BELLA an example of how to structure advice to student consultants. Finally, I have included a handful of my research suggestions and strategies from past semesters' projects, again as examples for BELLA.

Challenges So Far

As a new service, Illinois Chat has experienced some technical problems. In early Fall 2025, all chatbots on the Illinois Chat platform frequently (daily) lost access to the documents provided to them. With no other documents available, BELLA made up its own, drawing on its basic large language model training. I alerted students to the indicators that BELLA was hallucinating, but students seemed frustrated by these service issues, and their initial enthusiasm for BELLA waned. As Illinois Chat has improved and stabilized, these issues are much less common.

The default prompt in Illinois Chat provided an excellent starting point, but my early additions were too complicated, and BELLA struggled to satisfy the many parameters I specified. After I

reinstated the default prompt with only minor edits to explain to BELLA what its purpose is, who its primary users are, and what those users will do with the suggestions they receive, BELLA's responses improved. I have since added language to discourage BELLA from communicating assumptions about content it cannot access and similar undesirable behaviors it has exhibited.

Finding a workable format for the documents I provide has been a challenge, since BELLA does not read documents the way a human reader would, but rather looks at fixed-length chunks of text. To accommodate this, the documents I have created for BELLA feature repeated explanations to provide context and aid in BELLA's comprehension. While these documents are also intended for human readers, users might find the format confusing.

Finally, because of the timing of my work, I was unable to formally introduce BELLA to student consultants until mid-September, after project work was underway. As a result, in informal discussions with students during and at the end of the semester, only a few mentioned trying BELLA at all, noting technical issues they had encountered, as mentioned earlier. While no student could offer an example of how BELLA had helped them, all those I spoke with agreed that it could potentially be helpful if introduced earlier in the semester.

Next Steps

My primary task in the coming months is to create more documents for BELLA, especially anonymized resources and strategy advice from past client-based projects I have supported. As I add to BELLA's knowledge base, BELLA will likely exhibit new and unexpected behaviors, and I will need to experiment with new language in the prompt.

I also intend to experiment with document formats. As a very rough estimate, BELLA's recommendations match mine at best about 70% of the time, with BELLA often including resources I would have omitted and omitting resources I would have included. This means there is room for improvement. I believe that the documents are the best place to address these differences by providing more thorough context for BELLA's comprehension. Although it is possible to provide feedback to BELLA, perhaps pointing out a discrepancy between BELLA's response and the document it cites, BELLA is primarily a "customer service" bot, drawing from a defined set of documents, and will not "remember" an interaction or incorporate lessons learned into future responses. The best way to correct BELLA's understanding, and therefore its responses, is through adjustments and enhancements in the reference documents.

Finally, with BELLA further along in its development, I hope it can be better utilized by students in Spring 2026. I will need to address instructors' questions and concerns about BELLA's scope and purpose, so that they can decide whether and how to promote BELLA to their students. I will also need to manage students' expectations, since technical issues within Illinois Chat may still occur, but even when BELLA is functioning optimally, students may be confused when BELLA responds with ideas on how to conduct research rather than a response that looks like finished research. In advising students how best to use BELLA and interpret its responses, I need to be prepared to introduce elements of AI literacy.

References

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