

CAII TEAM BUILDS AN AI-POWERED TEACHING ASSISTANCE CHATBOT

🕒 August 7, 2023

Would you like a dedicated TA for classes? Check this out!



The CAII team at NCSA is building an **AI-powered chatbot** capable of rapidly ingesting college course materials, such as professor's lectures, videos, textbook, and becoming an effective Artificial Intelligence (AI) teaching assistant (TA) that can answer factual questions, explain course materials, and even help with homework problems, while providing links to the primary sources, within the context of the course. The chatbot utilizes GPT-4 model via OpenAI API as well as other large language models and databases hosted on AWS.

Here's the details. The purpose of this chat bot is to demonstrate a prototype AI TA able to answer factual questions based on specific course content, with links to exact portions of those materials. In collaboration with the Gies College of Business, the Grainger College of Engineering and the UIUC College of Law, a few courses of interest have been selected for which relevant course materials will be gathered, curated, pre-processed, and ingested into the AI TA. The core strategy is a form of prompt engineering called Prompt Stuffing wherein documents are retrieved using semantic search over document embeddings. The retrieved documents are stuffed into the prompt and used to answer the user's question. This, combined with further prompt engineering and final moderation checks helps ensure that GPT-4's responses to questions based on verified course materials are grounded by known-good documents and facts. Moreover, it encourages students to read the primary material by directly citing the exact location in the source material where they may learn more.

The implications of this work on student learning are significant: each student will have access to a dedicated AI teaching assistant, always at hand, capable of delivering comprehensive explanations of intricate subjects across a wide range of disciplines.

PREVIOUS

[AI@UIUC Undergraduate Students receive Grant and Scholarship at FL-ICML](#)



CONTACT US
ai@ncsa.illinois.edu

JOIN OUR MAILING LIST
[Subscribe today](#)

Copyright © 2021 Board of Trustees of the [University of Illinois](#). |
[Web Privacy Notice](#)