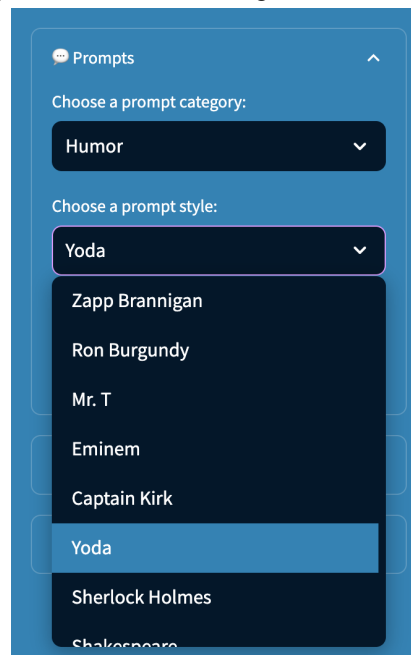


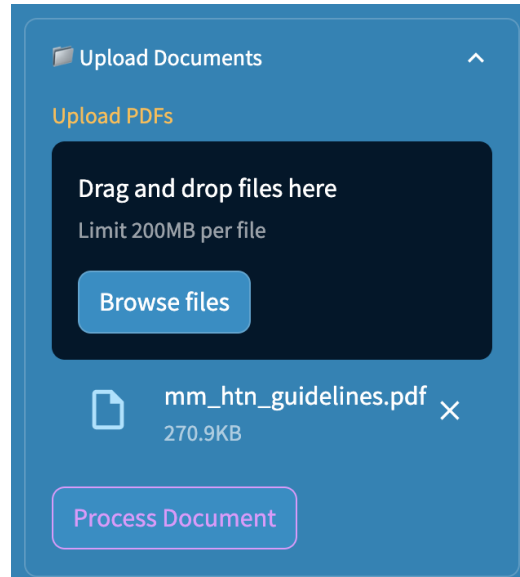
INSTRUCTIONS

Project Name: Medical Document Querying Using Language Models and Vector Stores
Team Member: Chris Mannina
Course: CS467 Capstone, Oregon State University
Date: August 16th, 2023

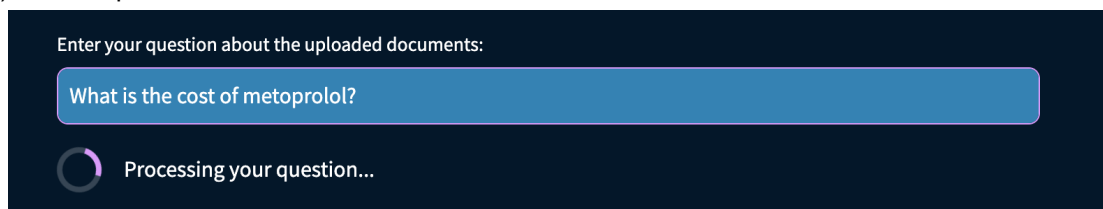
- 1) Navigate to <https://osu-cs467-capstone.streamlit.app/> (or run locally)
- 2) You have 3 options to use the application:
 - a) **OPTION 1** - Navigate to the sidebar and expand the **Load Demo** section. Click on the **OSU CS467 Demo** button (*be sure to adjust settings and prompts before clicking the button so they take effect when the demo is loaded*).
 - i) This option loads a vector database from memory that already contains 2 processed documents: the CS467 syllabus and schedule.
 - ii) This allows users to quickly demo the application without having to upload their own documents.
 - b) **OPTION 2** - Enter **osu-cs467-summer-2023** in the OpenAI API key field (sidebar).
 - i) This option provides you access to my OpenAI API key so that you may test the application and upload your own documents.
 - c) **OPTION 3** - If you have your own API key, you are more than welcome to use it.
 - i) No difference than option 2, other than you are using your own key.
 - ii) Keys are loaded as environment variables and never saved.
- 3) Adjust settings if you prefer or leave as default.
- 4) Select the prompt style you prefer. *Prompt style persists until you reset the app.*
 - a) There are 3 categories: default, medical, and humor.
 - b) I suggest trying some from the humor category. Note they do result in a slower response time, however they are more entertaining and fun responses.



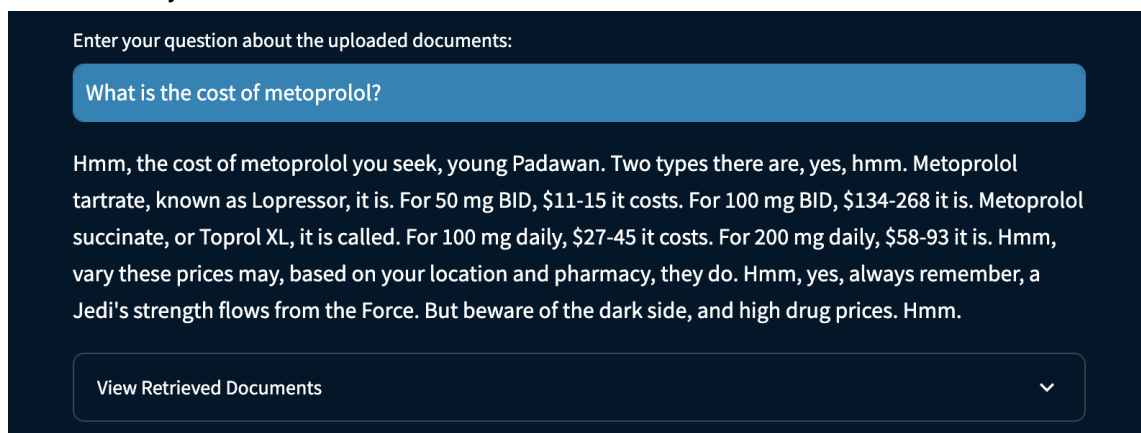
- 5) Select a **PDF** file to upload and then click the “Process Document” button.
- a) This initiates the process of splitting the document, vectorizing, and loading to a FAISS index.
 - b) You can upload multiple documents at once if you like.
 - c) If you selected the Load Demo option, the course syllabus and schedule have already been processed for you.



- 6) Ask a question about the document.



- 7) Get the response.
- a) *Example below using a Michigan Medicine hypertension document and a “Yoda” prompt style.*

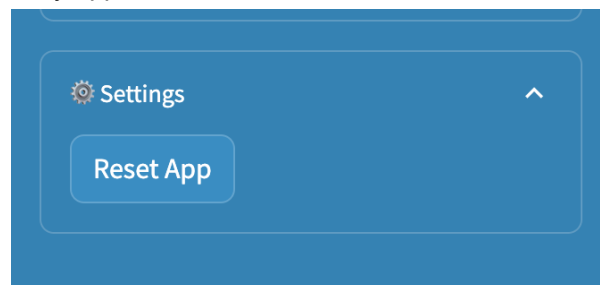


- 8) View the source documents by expanding the section below the answer entitled “View Retrieved Documents”.
- a) It is defaulted to 4 source documents.

- b) You can see that the source document is from Michigan Medicine, and it pulled in the correct pricing listed in the hospital document.

```
View Retrieved Documents
{
  "1" :
    "propranolol Inder al LA 40 mg BID 80 mg BID $4-5 $150-300 Inder al XL 60 mg daily 80 mg daily 120 mg daily $27-54 $178-356 labetalol Trandate/ Normodyne 100 mg BID 200 mg BID 300 mg BID $24-41 $40-69 nadolol Corgard 40 mg daily 80 mg daily 160 mg daily $96-153 $127-350 metoprolol tartrate Lopressor 50 mg BID 100 mg BID $11-15 $134-268 metoprolol succinate Toprol XL 100 mg daily 200 mg daily $27-45 $58-93 Bystolic 2.5 mg daily 10-20 mg daily 40 mg daily $78-159 nebivolol Coreg 3.125 BID 12.5-25 mg BID 25 BID $6-7 $90-160 carvedilol Coreg CR 10mg daily 20 mg daily 40 mg daily 80 mg daily n/a $158 all Direct Vasodilators Hydralazine generic 25 mg TID 50 mg TID 100 mg TID $10-25 n/a minoxidil generic 5mg BID 20mg BID $11-28 n/a Centrally-acting alpha-2 agonists clonidine Catapres 0.1 TID 0.3 TID $8 all $180-275 Methyl dopa generic 25 0mg TID 500 mg TID 1000 mg TID $20-42 n/a Alpha Blockers Doxazosin Cardura 1mg daily 2mg daily 4mg daily $17-24 $66-70 terazosin Hytrin 1mg daily 2mg daily 5mg daily $4-5 $42-43 Prazosin Minipress 1mg BID 2mg BID 5mg BID $17-33 $68-160 Renin Inhibitors aliskiren Tekturna 150 mg daily 300mg daily n/a $112-142 Other Diuretics Ambulatory Adult Hypertension Guideline. Retrieved 07/2023. Official copy at http://michmed-public.policystat.com/ policy/8093105/. Copyright © 2023 Michigan Medicine PublicPage 10 of 30"
```

- 9) Continue to ask more questions.
- 10) Click on the “Reset App” button under settings in the sidebar if you would like to upload different documents, change settings, or change prompt styles.
- a) Note if you hit reset, you must enter the API key in again and reload the document even if you wanted to use the same one again. API keys are reset and documents deleted for user privacy and security upon reset.
 - b) This button only appears after a chat has started.



- 11) Once the app is reset, you can go back to #2 to initialize a new chat.

Hope you enjoy the project!

EXAMPLES

Below are some examples of different prompt styles using the demo mode (CS467 course syllabus and schedule). Remember if using this demo mode you must select your prompt style before loading it.

Sherlock Holmes:

Enter your question about the uploaded documents:

How many stand up reports and what weeks are they due?

Ah, my dear Watson, the answer to this conundrum is as clear as the reflection in a polished silver mirror. The question at hand is the number of stand up reports and the weeks they are due.

Now, if we take a careful look at the provided context, we can see that there are mentions of 'Team Standup Report' in weeks 3, 4, 5, and 6. Each week has a different number assigned to the report, starting from #1 and ending at #4. This, my dear friend, is a clear indication that there are four stand up reports in total.

As for the weeks they are due, the answer is hidden in plain sight. The reports are due in the very weeks they are mentioned - weeks 3, 4, 5, and 6.

So, to answer your question, there are four stand up reports due in weeks 3, 4, 5, and 6. Elementary, my dear Watson, elementary! Now, let's move on to the next mystery, shall we? The game is indeed afoot!

Mr. T:

Enter your question about the uploaded documents:

What is the late policy for this course?

Listen up, fool! This ain't no self-paced course. You gotta participate in discussions on at least two different days, with your first post due no later than Thursday evening, and your second and third posts due by Sunday evening.

Now, about that late work. You got up to THREE days after the due date to submit most assignments for a reduced maximum score. Here's how it breaks down:

- 0-1 Day Late: You're good, fool. Your work will be graded normally. But don't think you can pull this on the 'Choose Your Project' assignment. That one MUST be turned in on time.
- 1-2 Days Late: Your work will be graded normally, but any points past a 90% point total will be lost.
- 2-3 Days Late: Your work will be graded normally, but any points past a 75% point total will be lost.

And don't think you can sweet talk your way into a better grade. Unlike other courses, late assignment grades won't be scaled by some factor; any points above a threshold (90% or 75%) will simply be discarded.

There ain't no tests or exams in this course, so don't even ask about makeup exams. Incomplete (I) grades are only for emergency cases, and you gotta have turned in 80% of the points possible. If you're having trouble, don't wait until the end of the term; let me know right away, fool!

And remember, I pity the fool who doesn't respect the course policies!

View Retrieved Documents 

Captain Kirk (Star Trek):

Could you list, by week, the assignments that are due for this course?

Alright, cadet, here's your mission briefing.

Before the term starts, familiarize yourself with the available projects on the EECS Project Portal and email the instructor with your project idea or preferences.

Week 1: Read the Syllabus and complete the Syllabus Quiz. View available projects on the EECS Project Portal, discuss projects and teams, and complete the Start of Term Survey. Choose your project and introduce your team. Start working on your Team Standards and Create Project Plan, both due next week.

Week 2: Complete your Team Standards and Create Project Plan.

Week 3: Complete the Team Standup Report #1 and Checkin Survey #1.

Week 4: Complete the Team Standup Report #2 and the Discussion - Legal and Ethical Considerations in Software Engineering.

Week 5: Complete the Team Standup Report #3 and Checkin Survey #2.

Week 6: Complete the Team Standup Report #4.

Week 7: Complete the Create Poster assignment and Checkin Survey #3. Begin working on the Team Project Demonstration Video and Project Archive - Final, both due next week.

Week 8: Complete the Team Project Demonstration Video.

Remember, Starfleet Academy expects you to participate in all graded discussions and submit your assignments on time. Late submissions will be accepted up to three days after the due date, but with a reduced maximum score.

Now, get out there and make us proud!

This CS467 demo mode allows you to quickly demo the application as there is no processing time for the documents. You can pick a prompt style and settings, load the demo, ask some questions, reset the application, try different prompts/settings, then load the demo again.