

Building Human-Centered AI Applications

Homework 01

The goal of this homework assignment is to give you practice updating your app and running a streamlit application.

Create the app

1. Create an app similar to Lab 01 (Document QA)
 - a. Edit using GitHub Codespaces (or any other way you find useful)
2. Update the code used for Lab 01:
 - a. Copy lab1.py to HW1.py (or redo Lab 01 changes to the template)
3. Make additional changes to the template:
 - a. Let the user upload .pdf and .txt files (but no other file extensions)
 - i. PyMuPDF or pyPDF can read PDF file (see <https://chatgpt.com/share/641610cf-10e5-491b-973d-be039f5bafcd>)
 - ii. Here is code to check if the uploaded file ends with 'txt' or 'pdf':

```
file_extension = uploaded_file.name.split('.')[-1]
if file_extension == 'txt':
    document = uploaded_file.read().decode()
elif file_extension == 'pdf':
    document = read_pdf(uploaded_file)
else:
    st.error("Unsupported file type.")
```
 - b. Try 4 different models (gpt-3.5, gpt-4.1, gpt-5-chat-latest, gpt-5-nano), using the same document and question (use our syllabus, "Is this course hard?"). Which answer is best? Which answer is best, including consideration of the cost and speed of the query? Explain your answer.
4. After testing the application:
 - a. Create a new GitHub repository (e.g., IST-488-Homework)
 - i. This repo must be **public** for Streamlit Community Cloud to use it
 - b. Upload the required files to GitHub
5. Deploy the app:
 - a. NOTE: you may need to update requirements.txt
(since you are now using a Python library to read PDF files)
 - b. Make your app **private**, but grant access to **cndunham@syr.edu**

What to submit:

1. The link to your app
2. Your Python code files (.py)
3. Your responses to item 3b (comparison of 4 model outputs)