

AI Assignment

URL of the entire code base and readme :

https://drive.google.com/drive/folders/1yimzlHyVutE0iwyaDdHlnwrg8TFy4Pca?usp=drive_link

Problem Statement

1. Develop a webapp, allowing user to chat with the AI agent by providing a place to enter his query and see the responses obtained by the system. This is similar to any instant messaging system where our responses are coming from the AI agent. To test the functionality of this step the Chatbot can generate random responses.
2. Extend the webapp developed above to integrate openAI. Now the Chatbot will generate the responses using openAI API's similar to ChatGPT. You can get details of using openAI API's from <https://community.openai.com/>. You may have to create an account in openAI for this step. You can look on a short course on youtube "Building Systems with the ChatGPT API: A short course from OpenAI and DeepLearning.AI"1. Also you can do a google search "How to Build an AI-Powered ChatBot with OpenAI, ChatGPT, Node.js, and React" and see the material available online2.
3. Further extend the above Chatbot by customising it to generate responses confined to a domain specific knowledge gathered by supplying a PDF to the system. You have to use embedding model API's of OpenAI to generate the embedding of a given PDF and use it as a database for providing domain specific responses. Search on google "Customizing an OpenAI Chatbot With Embeddings" and visit page 3.
4. Integrate the uploading of PDF, generating embedding, and the AI agent into a single web application. The GUI of the app should allow users to browse and upload multiple PDFs and set the context for the conversation. Now the Chatbot should answer based on the supplied PDFs.

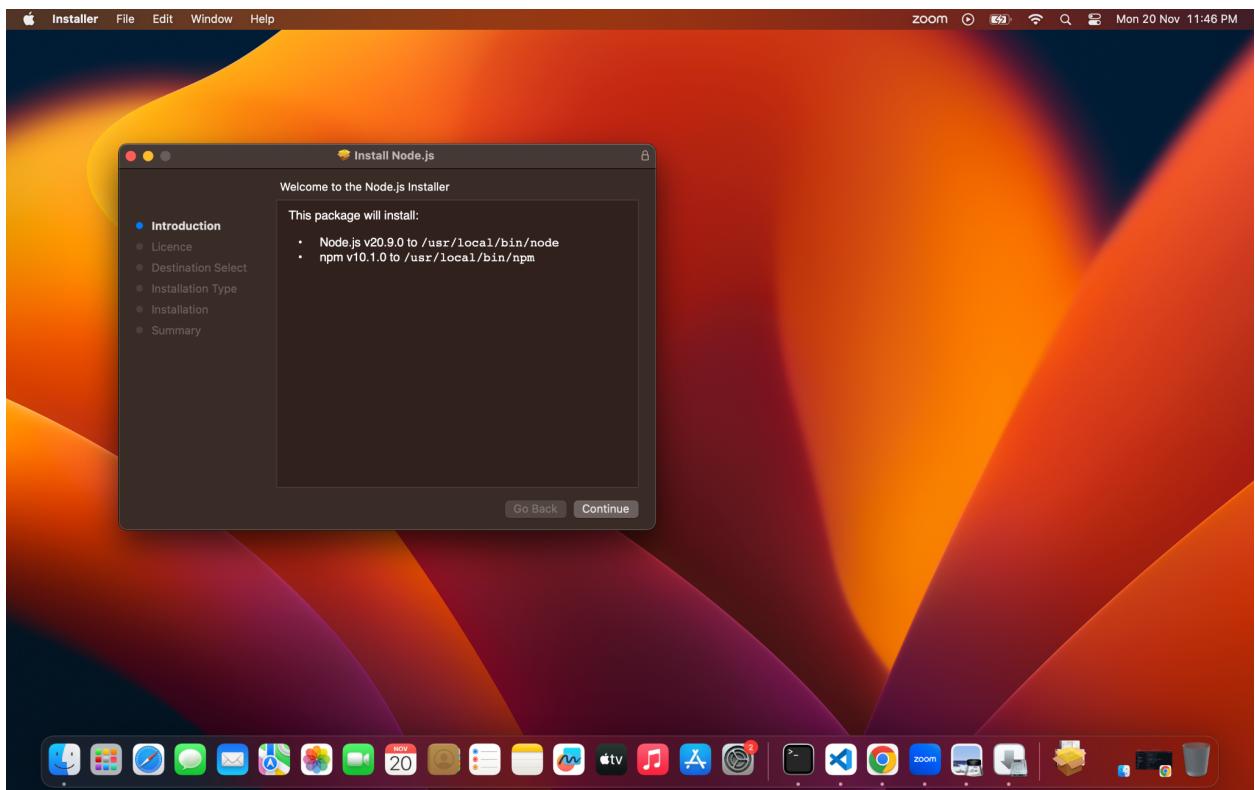
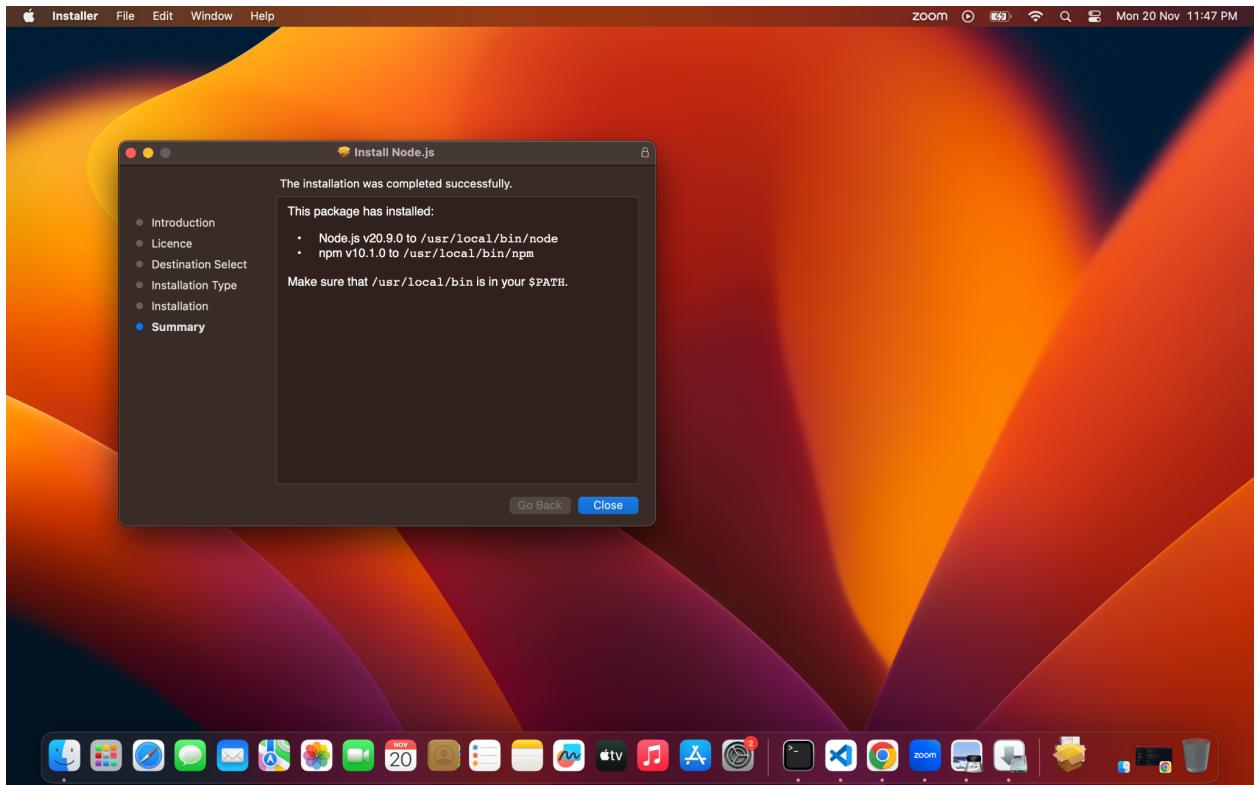
Problem Solution Approach:

1. I can start by following these two tutorials :
 - a. Backend : ChatGPT API Integration using React and NodeJS | ChatGPT MERN Stack App | SnapDev - <https://www.youtube.com/watch?v=Zqm7znEJWxQ>
 - b. Frontend : ChatGPT React Project using Hooks | ChatGPT MERN Stack App | SnapDev : https://www.youtube.com/watch?v=_LusXn1mhB8

Let's start with the backend. We'll follow through the recording, and list down the issues faced and how I resolved them:

Tried to run the command `npm init -y`, gave this error — `zsh: command not found: npm`

Basically, this issue comes up when the npm is not installed locally. So, using this website for installation : <https://nodejs.org/en/download>



The npm and node was successfully installed. To check if the installation was successful, try to run the command : `npm -v`

Gives us : `10.1.0`

This means that the installation was successful.

Reran the command `npm init -y`. Gives this output :

Wrote to `/Users/niranjan/bits-ai/chatgpt-app-2/server/package.json`:

```
{  
  "name": "server",  
  "version": "1.0.0",  
  "description": "",  
  "main": "index.js",  
  "scripts": {  
    "test": "echo \\\"Error: no test specified\\\" && exit 1"  
  },  
  "keywords": [],  
  "author": "",  
  "license": "ISC"  
}
```

Working on `index.js` now:

We are going to need express

We will also need cross origin resource sharing because we will be interacting with the react front end.

Body parser

Ran this command : `npm i express cors body-parser`

Gives this output :

added 66 packages, and audited 67 packages in 4s

11 packages are looking for funding

run ``npm fund`` for details

found 0 vulnerabilities

Ran the command : npm i dotenv

Gives this output :

added 1 package, and audited 68 packages in 1s

12 packages are looking for funding

run `npm fund` for details

found 0 vulnerabilities

Ran the command : npm i nodemon

Gives this output :

added 34 packages, and audited 102 packages in 4s

15 packages are looking for funding

run `npm fund` for details

found 0 vulnerabilities

Ran the command : npm install openai

Gives this output:

added 27 packages, and audited 129 packages in 6s

16 packages are looking for funding

run `npm fund` for details

found 0 vulnerabilities

Need to get the OpenAi key (the prof said that some random student posted the token in github, so it got invalidated. Damn!

So, creating our own token through this documentation URL :

<https://platform.openai.com/docs/api-reference/authentication>

This URL works after login: <https://platform.openai.com/api-keys>

Api Key Generated : 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
Key Name : ai-assignment

The chat option isn't working for me in the OpenAI playground. I'll try to go forward without the api key for now, and get that later.

Currently, I've finished the backend setup. I don't have the api key right now, but I will get it after some time.

Let's go into the front end now:

We are going to use mui mv for the front end design.

Vite setup to be done:

Ran the command : npm create vite@latest

Chose : react, javascript, .

Ran the command : npm install

added 270 packages, and audited 271 packages in 18s

97 packages are looking for funding

run `npm fund` for details

found 0 vulnerabilities

Ran the command : npm run dev

The local server starts at : localhost:5173

Babel Transpiler

Mui : material UI

Ran the command : npm install @mui/material @emotion/react @emotion/styled

Gives this output:

added 51 packages, and audited 322 packages in 8s

107 packages are looking for funding
run `npm fund` for details

found 0 vulnerabilities

Ran the command : npm i axios

Gave this output:

added 9 packages, and audited 331 packages in 3s

108 packages are looking for funding
run `npm fund` for details

found 0 vulnerabilities

<https://fonts.google.com/specimen/Inter?query=inter>