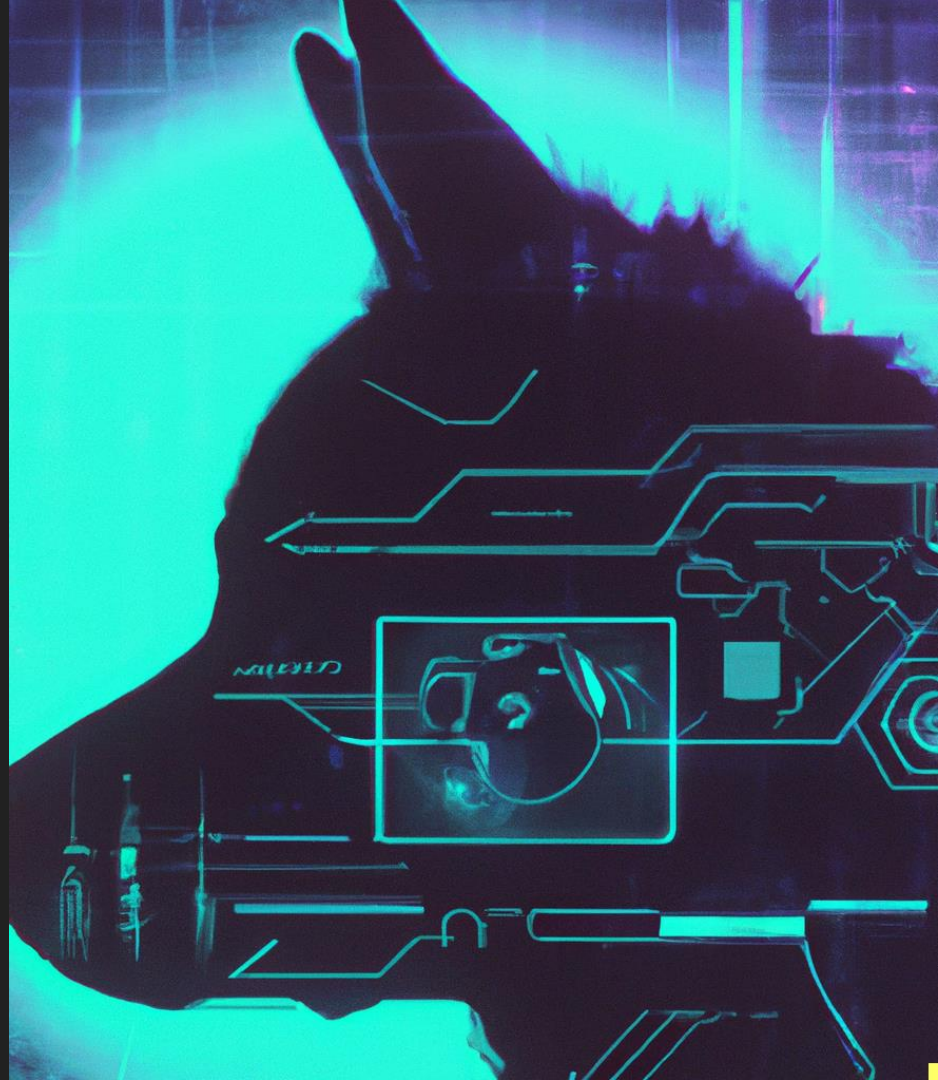


# Knowledge Base with ChatGPT

Bring your own data



# Hackathon Project

## 1. Bring your own data

- Power of ChatGPT using your custom data

## 2. Seymour Chatbot

- Real working example
- KB built from Intravet User Manual

## 3. Hackathon Demo

- [Video Link to the original demo](#)

## 4. Sneak Peak

- RAG Pattern
- Building the Knowledge
- Harnessing the Knowledge

```
SEYMOUR: Hello, I'm Seymour. How can I help you?  
USER: Yes. How do I setup a branch logo in intravet?  
thinking...  
SEYMOUR: To add a logo and background in IntraVet, follow these steps:  
1. From the IntraVet Menu Bar, select Setup | Program | General Branch  
2. Select the Branch you wish to edit and click Edit.  
3. Click the plus sign (+) in front of General and click Logo and Background  
4. If a logo is to be used, click the Load button and navigate to the file  
   stored. The logo file types must be JPEG or BMP and size is 300 x 90  
5. Click Load to add the logo. [KB]  
USER: Is there an end of day report?  
thinking...  
SEYMOUR: I'm sorry, I don't have that information in the sources provided.  
USER:
```

```
C:\Windows\System32\cmd.exe - python test_kb_service.py  
  
C:\Projects\Repos\Hackathon_2023_KnowledgeBase\KB_Microservices>  
  
1. Create KB article  
2. Search KB articles  
3. Update KB article  
4. Mass Create KB article  
5. Search KB articles (v2)  
6. Exit  
  
Enter your choice: 1  
Enter the text for the new KB article: Intravet has an End of Day Service  
ting, End of Day Services. There are parameters for providing the service  
nd print button. _
```

# 1. RAG pattern – The Backbone

## 1. Retrieval-Augmented Generation

- a. Smarter AI using your data
- b. Middleman
- c. Behind the scenes

## 2. Query

- a. An **ask** from the user
- b. “Is there an end of day report?”

## 3. Retrieval

- a. Retrieve relevant KB articles (**your data**)

## 4. Generation

- a. Ask + KB article = new prompt
- b. Send to ChatGPT
- c. Better answer



## 2. Building the Knowledge

### 1. What the KB?

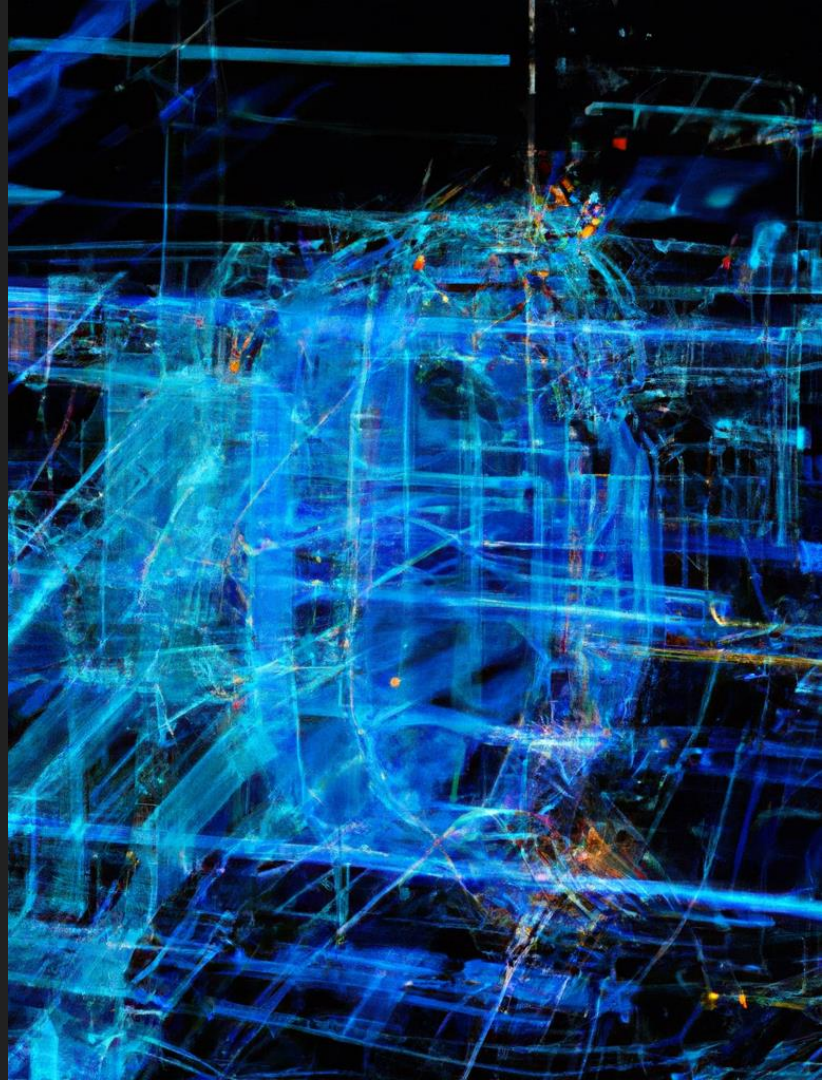
- a. Small chunks of your data
- b. Structured article

### 2. API for KB Management

- a. Small python app
- b. Send it text; Output KB article
- c. Generated by ChatGPT

### 3. Mass create KB articles

- a. Convert Intravet Manual pdf to text
- b. Splice into chunks; loop call create API
- c. "Why do Python developers wear glasses? Because they can't C#."





# 3. Harnessing the Knowledge

## 1. Searching KB Articles

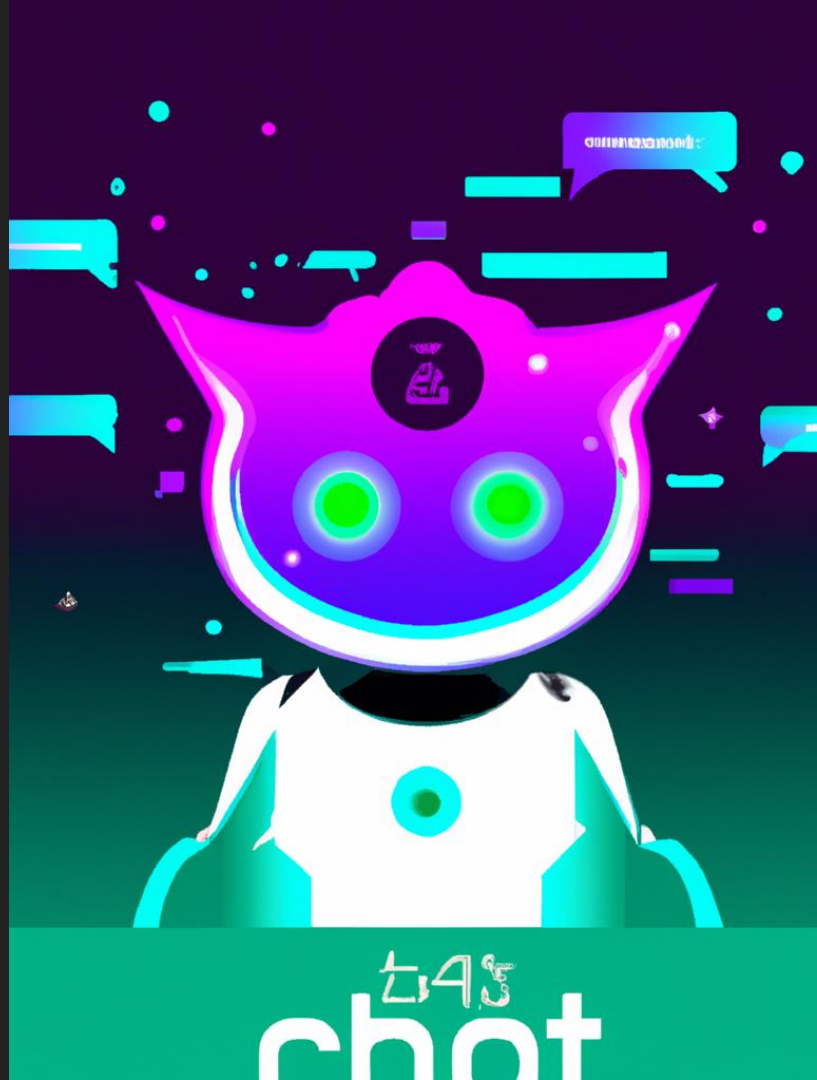
- a. Search API endpoint
- b. Retrieval
- c. Text in; relevant KB articles out

## 2. That's not what I asked for...

- a. Semantic search – meaning
- b. Failed – search without vectors
- c. Success - Vector db

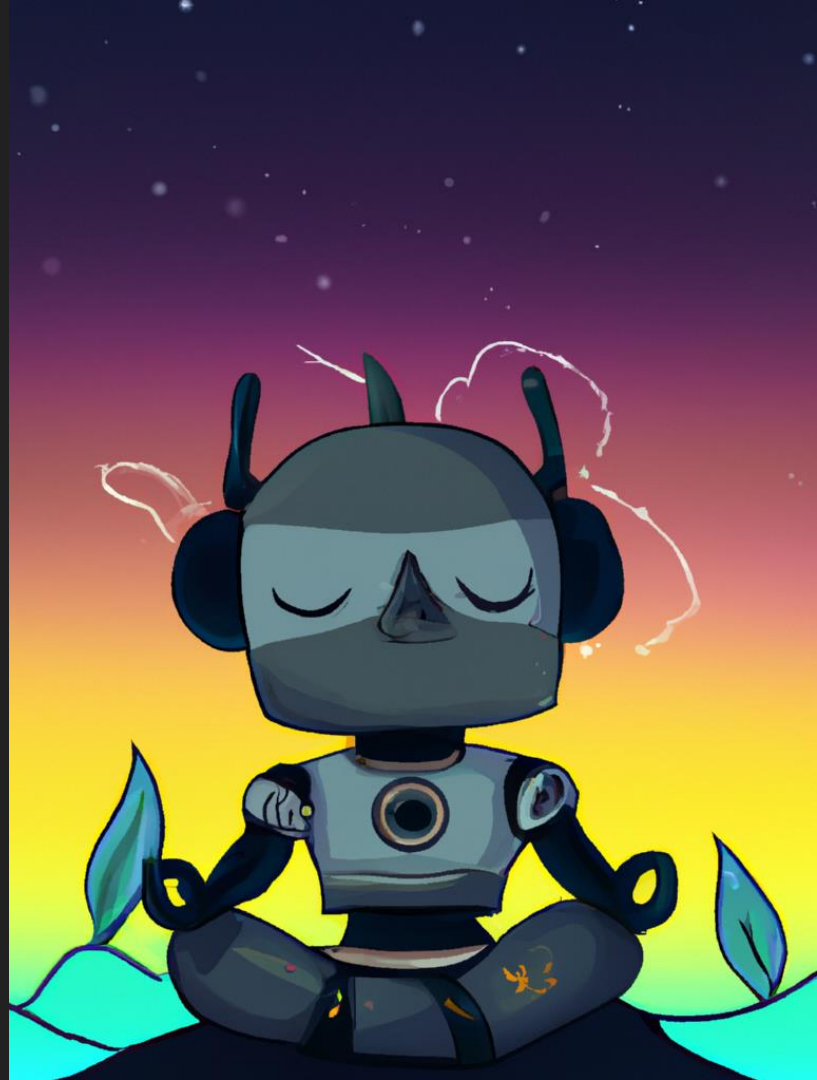
## 3. Don't cut out the middleman

- a. Behind the scenes we search for relevant data
- b. Better context = Better answers



# In Conclusion

1. **RAG pattern, KB articles and search**
  - a. Smarter AI
2. **Build your own KB**
  - a. Try it out yourself
  - b. GitHub repo links below
3. **Better options**
  - a. Looking for enterprise solution, see below
  - b. Grounding; Beyond Vector Search and RAG
  - c. Lang Chain and Planners



# Future and Beyond

For enterprise level apps, I'd recommend looking into Microsoft's Semantic Kernel. It's the framework behind Copilot and is open source. Links to repos and resources

[Semantic Kernel](#) - GitHub repo of the base framework.

[Chat Copilot](#) – good working example of semantic kernel and chat bot.

[Semantic Memory](#) – Basically KB articles

[Prompt Flow](#) – Easily test chat prompts and responses

[Semantic Kernel](#) - YouTube channel

[Semantic Kernel](#) - blog



# Project Links

[Hackathon-2023-KB](#) – GitHub repo

The README of the above repo has information on how to setup the project and acknowledgements and links to other related information.

[Azure OpenAI Service](#) - Information on how to create an OpenAI API in Azure.

[ChromaDB \(VectorDB\)](#) – GitHub repo on the open-source vector db we used for our project.

