AI Assistant for system monitoring using LangChain

PyMongo, 10 August 2023

Large Language Model

Natural Language Processing

↑

backbone

Large Language Model (LLM)

Text

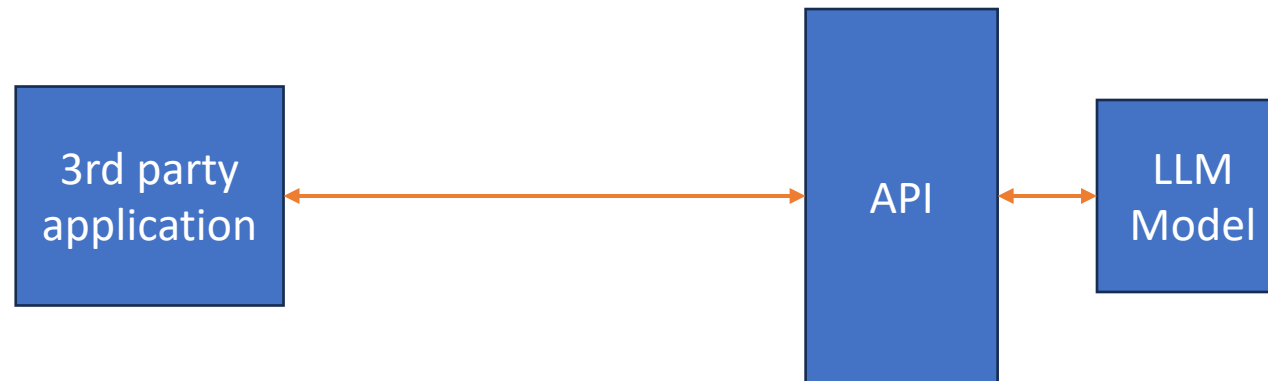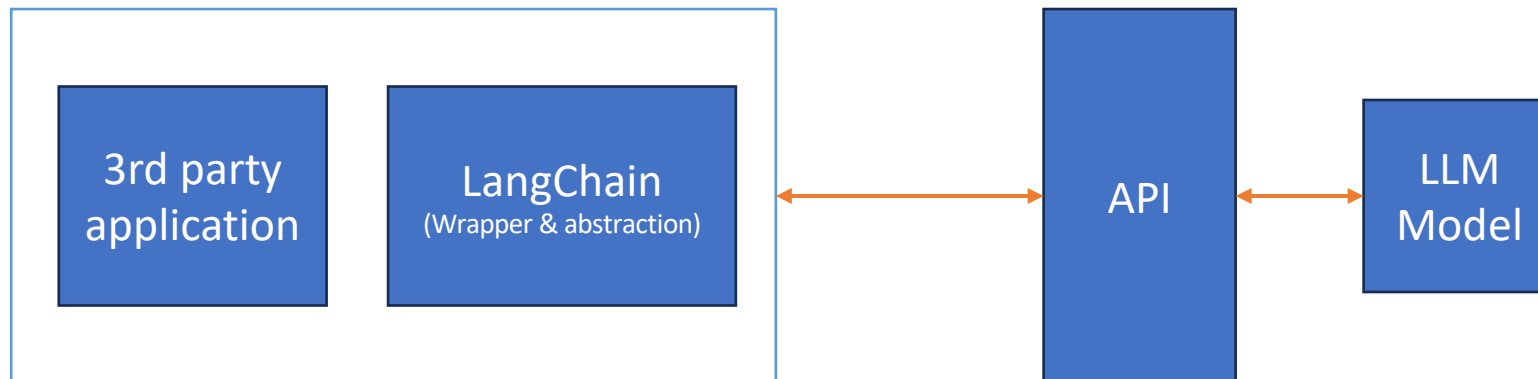1010101101

Vectorization

LLM
1010101101

Large Language Model on Production

- GPT – OpenAI

- Galactica

- Falcon 40B

- BERT

- Others

LLM Open API

LLM Open API

Langchain

Langchain

```python
from langchain.llms import OpenAI

llm = OpenAI(openai_api_key=OPENAI_API_KEY)
```

OpenAI API

List models

`GET https://api.openai.com/v1/models`

Lists the currently available models, and provides basic information about each one such as the owner and availability.

Example request — curl · Copy

```
curl https://api.openai.com/v1/models \
  -H "Authorization: Bearer $OPENAI_API_KEY"
```

Retrieve model

`GET https://api.openai.com/v1/models/{model}`

Retrieves a model instance, providing basic information about the model such as the owner and permissioning.

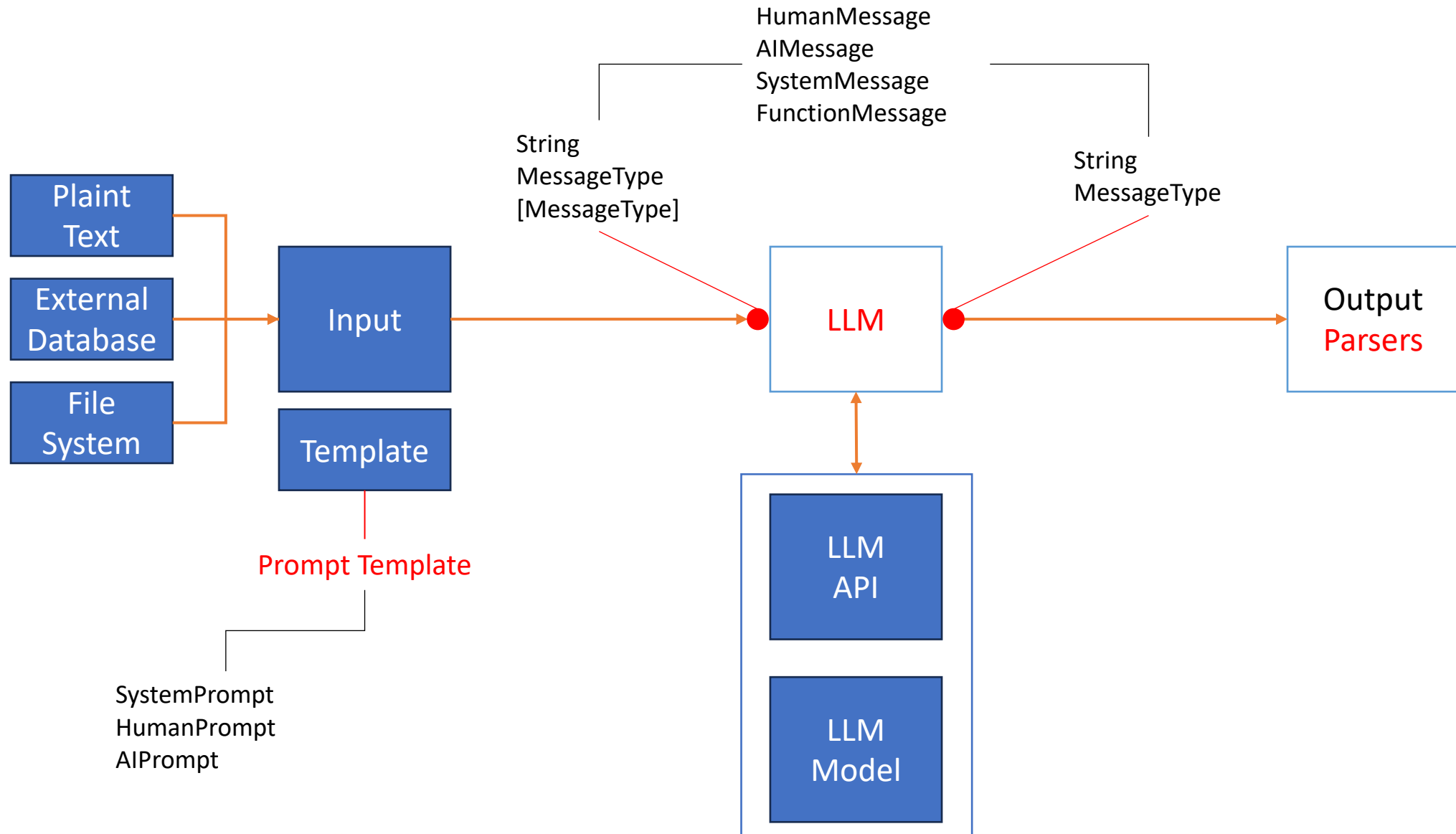Example request — text-davinci-003 · curl · Copy

```
curl https://api.openai.com/v1/models/text-davinci-
  -H "Authorization: Bearer $OPENAI_API_KEY"
```

Langchain Component

- LLM
- Prompt Templates
- Output Parsers

Langchain Component

LangChain - LLM

- HumanMessage

- AIMessage

- SystemMessage

- FunctionMessage

LangChain – Prompt Template

- What is Prompt

- SystemPrompt

- HumanPrompt

- AIPrompt

Without prompt

With prompt

"Please give me login component in HTML."

"Please give me login component."

HTML should utilize semantic tag with
CSS Tailwind, and responsive must be considered.

This is prompt

Output Parsers

- BaseOutputParser
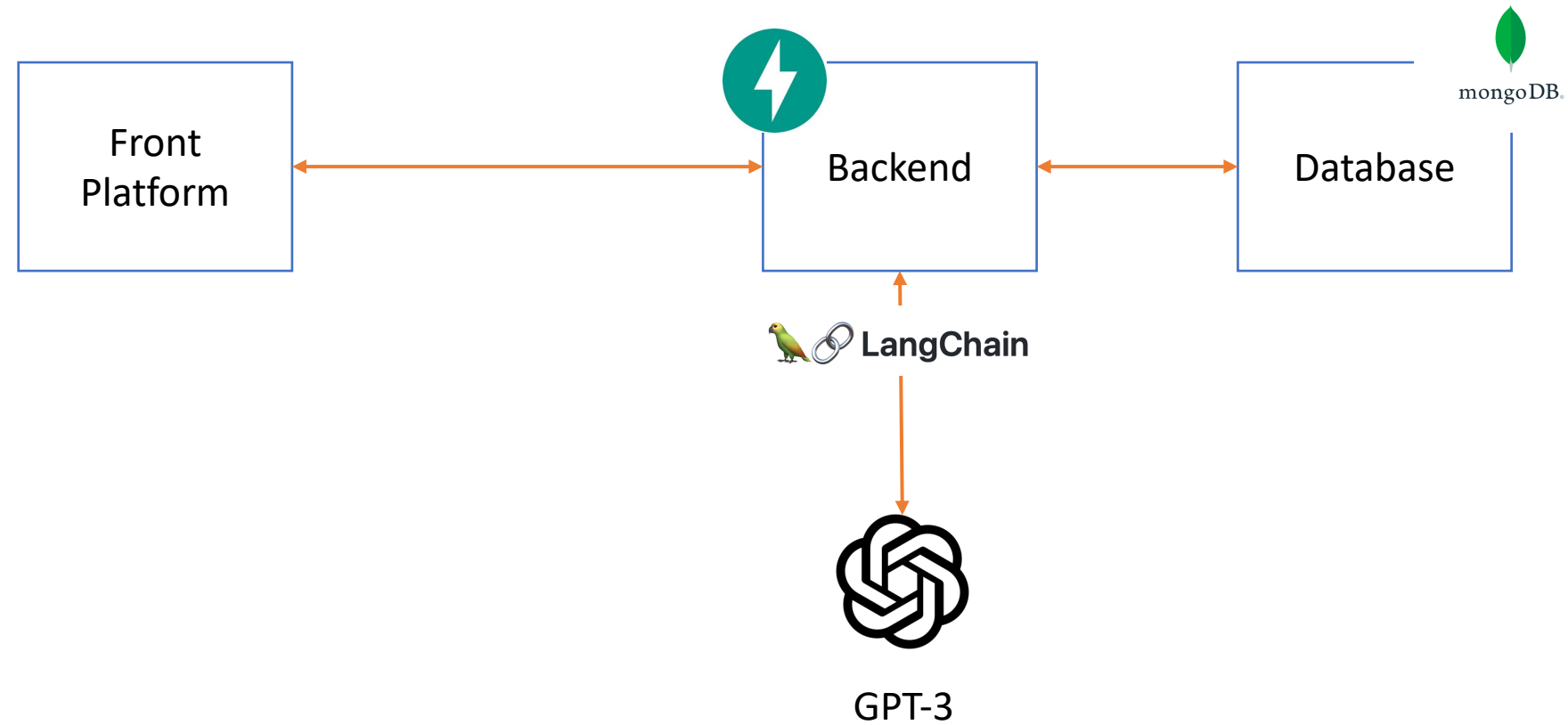 - Overwrite parse()
- Chain everything

Data Connection

- Connect with Mongo Atlas

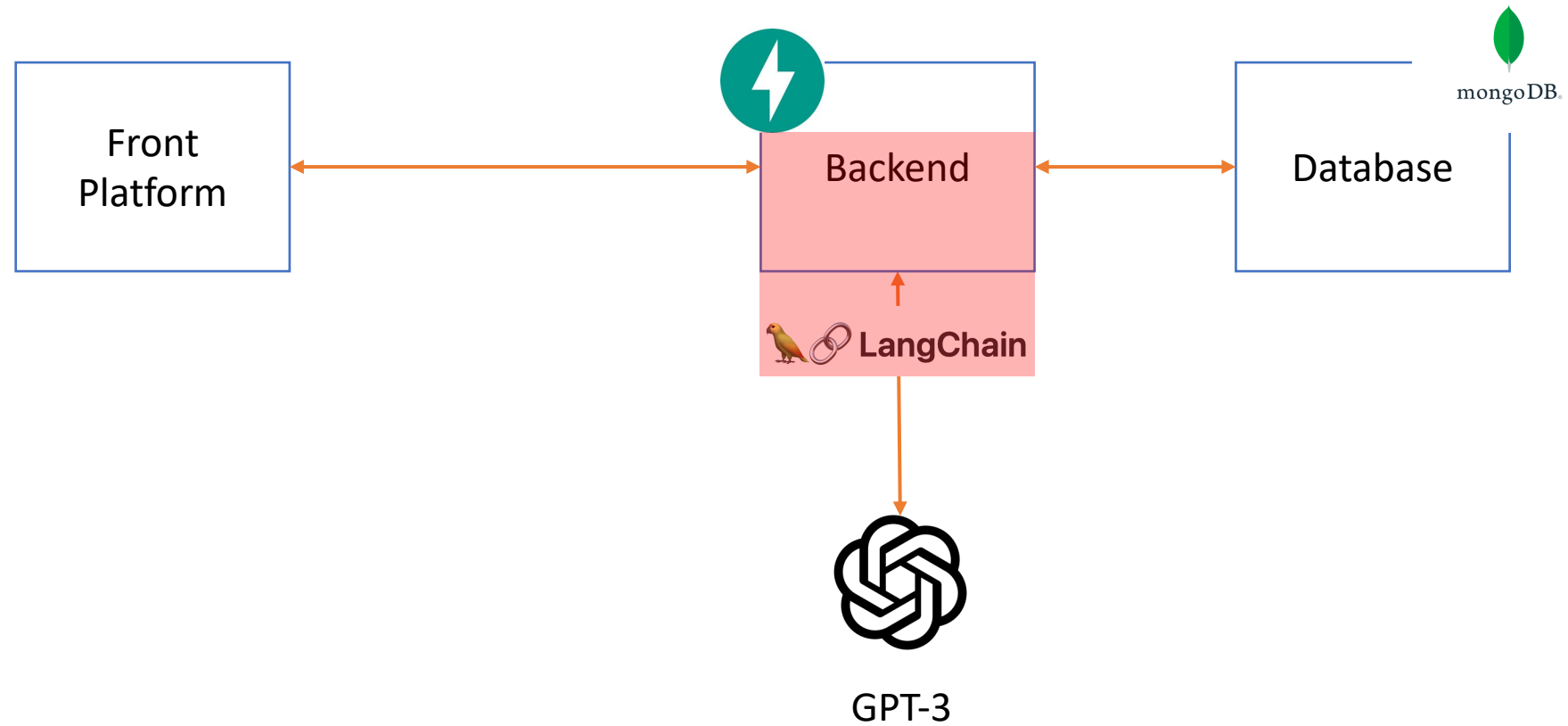- Manual search

Data Connection - bonus
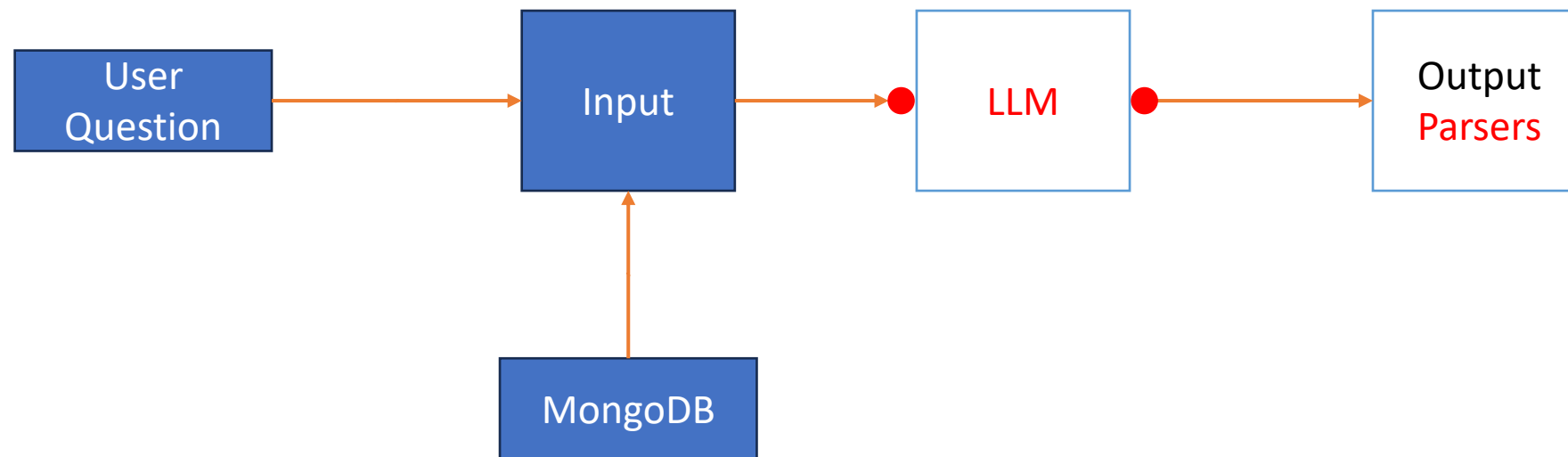
- VectorSearch with MongoDB

Demo

Demo

Front
Platform ⟷ Backend ⟷ Database

🦜🔗 **LangChain**

GPT-3

Demo

Walkthrough

https://shorturl.at/dlTW7

Simple assistant for system monitoring.
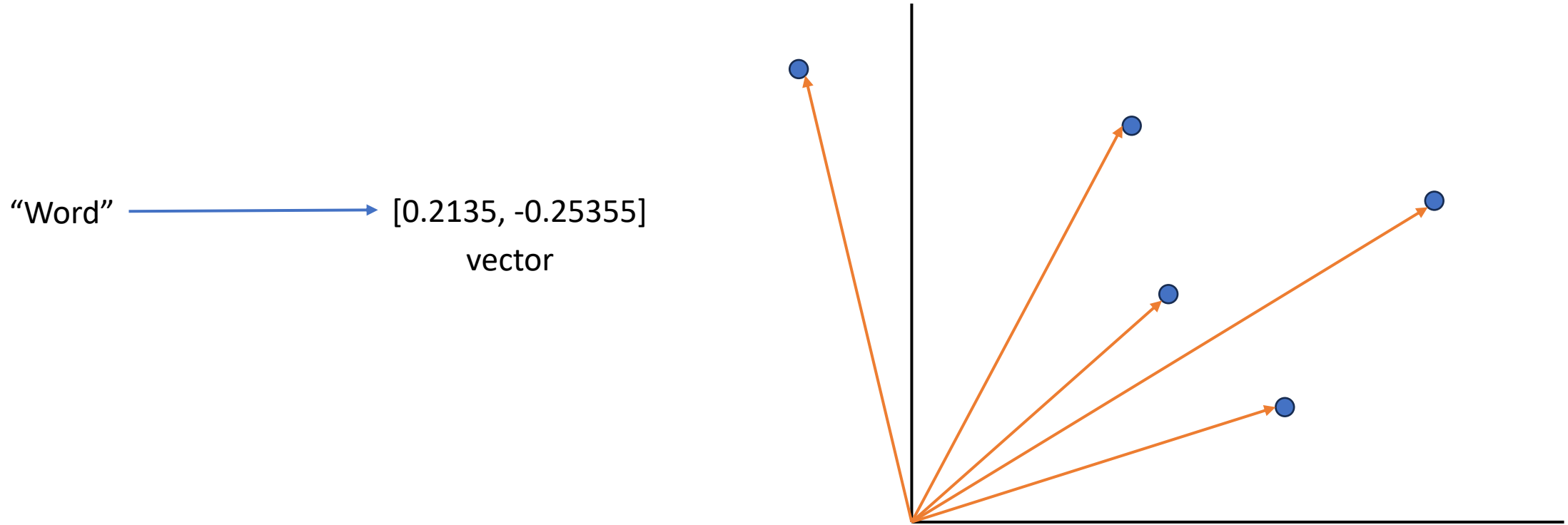
Vector Search with MongoDB

"Word" ──────→ [0.2135, -0.25355]
vector

Vector Search with MongoDB

Vector Search with MongoDB
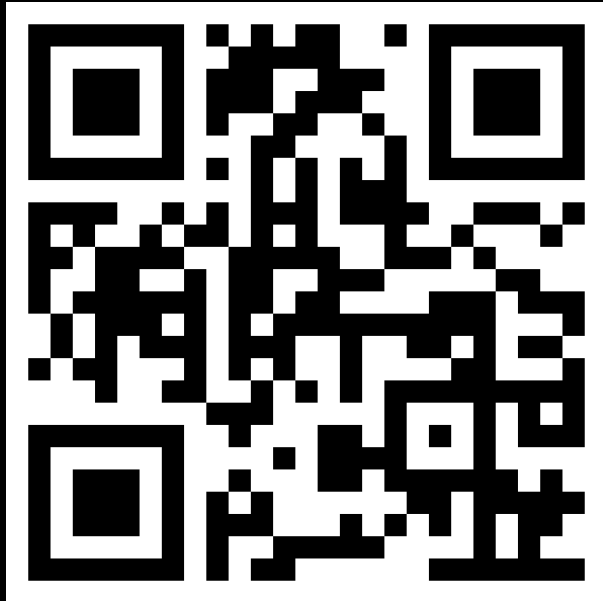
Vector Search with MongoDB

MongoDB Vector Search

```json
{
    "mappings": {
    "dynamic": true,
    "fields": {
        "embedding": {
            "dimensions": 1536,
            "similarity": "cosine",
            "type": "knnVector"
                }
            }
        }
}
```

APPENDIX

Submit your topic here

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PyCon Thailand 2023

Date:

- Conference Days: 15 – 16 December 2023
- Workshop Day: 14 December 2023

Venue:

- Conference: Avani Sukhumvit Bangkok
- Workshop: Microsoft (Thailand)
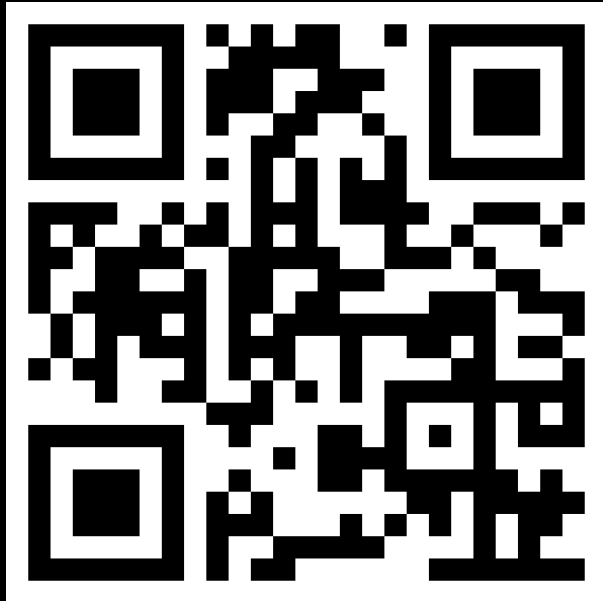
Submit your topic here

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Call for Proposals is now open!

**Deadline:** 16 August 2023

Topic:

- Web Development.

- AI / Machine Learning.

- GUI / Game Development.

- Testing and Development Tool Chains.

- Network Programming.

- Other (see more in papercall's description.

Submit your topic here

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Call for Proposals Timeline

Close submission ———●———	16 August 2023
Annoucement ———●———	1 - 16 September 2023
Workshop Day ———●———	14 December 2023
Conference Days ———●———	15 – 16 December 2023
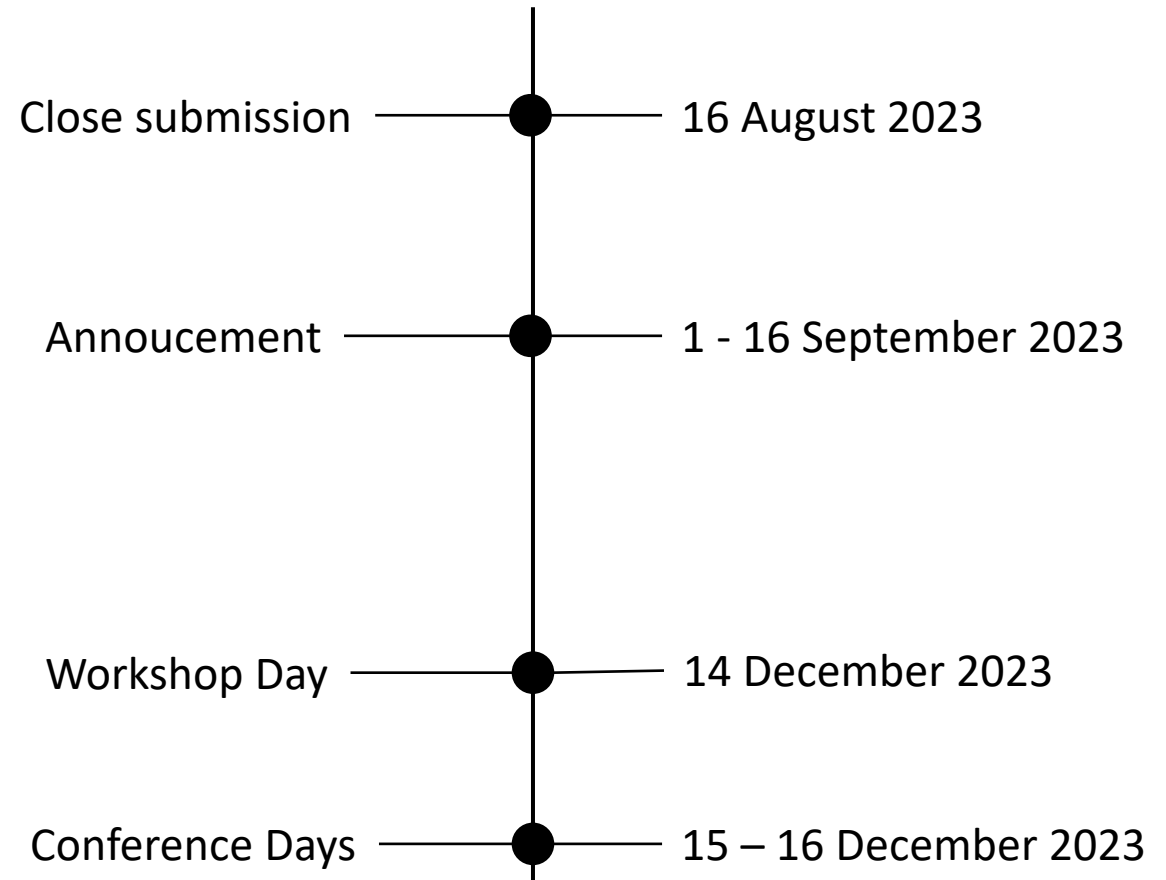
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- Free ticket to conference / after party.
- Internal network party of speakers (tentative).
- Contribution to community.

More information

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