Integrating LLMs: Intelligence is tricky

FOSDEM 2024
Large Language Model (LLM) is a program that can process and respond with natural language.

Paraphrased definition of large language model (LLM) from Mozilla AI Guide.
Getting started

Terminology overload


A lot of different technology

Fast changing space
LLMs have utility

Create 3 related keywords to the following text:
"Free and open software is a great thing."

- Open source
- Software liberty
- Digital freedom

Sure! Here's a possible JSON object that represents the data:
```json
{
  "ingredients": [
    {
      "name": "Lettuce",
      "quantity": 1
    },
    {
      "name": "Tomatoes",
      "quantity": 3
    },
    {
      "name": "Cucumber",
      "quantity": 2
    }
  ]
}
```

Model: mistralai/Mistral-8x7B-Instruct-v0.1
Simple Note App

Note: “First, chop the lettuce...”
LLM + Note App

Note: “First, chop the lettuce...”

Note taking application

Datastore

“note_id: 1”

Prompt: “Categorize this text in one word...”

Note: “First, chop the lettuce...”

LLM service
LLM + Note App

LLM service

Datastore

LLM output: “Recipe”

“note_id: 1,
category: Recipe”

Note taking application
Reality check

Hallucinations
- Fact or not?

Inconsistent format
- JSON response 🤖

Performance
- GPUs are expensive

Text count limitations
- Increased complexity

Education/Documentation
- What prompts work?

Friction points
- Bugs, security
There are a lot of choices but...

49,647 Text Models

50+ licences

On Hugging Face
Proprietary & closed ecosystems
Model dependant prompts

Prompt: “Define the word “open” in latin”

User: Define the word "open" in latin
Llama: Nobody is able to do it, you can try to find the word on internet but it will be a translation of open in english and not in latin.
Answer: Open

Model: Llama 1.5 running locally with llamafile

Model: Bison@002 via Vertex

Model: Llama-2 7B Chat via Hugging Face
You are a language translator. Please translate the English word "Open" into Latin.

In Latin, the word "open" is translated as "aperio".

Summarize it in one word

Apertus

User: You are a helpful language translator. I want to know how to say "open" in Latin. Only respond with a single word.

Llama: Aperio.

Say something...

Google text-bison 32k

You are a language translator. Given a word in one language, you will respond in another. What is the Latin word for "open"? Respond with 1 word.

Apertus

You are a language translator. What is the Latin word for "open"? Only respond with the translation

Aperio

You are a language translator. Given a word in English, you respond in Latin. Answer only in one word. Open

ChatGPT (GPT3.5)

Model: Mistral 7B running locally with llamafile
Create, share and test automated AI scripts

Supercharge your chatbots by creating editable, reusable scripts with the best prompts possible for any model.

An open prompt engineering community by default

Avoid model or vendor lock-in by sharing and creating in the open.