



Using Open WebUI for Effective AI Model Interaction

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WHAT?

Open WebUI is a Web-based application that allows you to interact with AI models.

WHY?

To understand what Open WebUI is and learn how to use it to effectively interact with AI models.

EFFORT

It takes less than an hour to understand the basics of Open WebUI.

REQUIREMENTS

The descriptions and procedures in this article assume that the following requirements are already fulfilled:

- You have successfully deployed the SUSE AI Factory.
- You can access the Open WebUI interface in your Web browser.
- Your Open WebUI user account has been created, and you have received the login credentials.
- You have navigated your Web browser to the URL of your instance of Open WebUI and logged in with your credentials.

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<https://documentation.suse.com> 

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1 What is Open WebUI?

Open WebUI is a Web-based interface that allows you to interact with AI models, such as *large language models* (LLM). It simplifies working with AI by providing a graphical user interface (GUI) instead of relying on command-line tools. The goal of Open WebUI is to make AI accessible to a broader audience, including those without technical expertise in AI development.

1.1 What are the key benefits of using Open WebUI?

Interaction with AI models

You can load a preferred AI model and interact with it using prompts in your natural language.

Custom data handling for RAG workflows

Open WebUI allows you to upload documents or specify URLs of pages that the AI can parse and reference during interaction, which is particularly useful for RAG workflows.

User-friendly interface

By providing a graphical user interface, Open WebUI makes AI tools more accessible to non-technical users. It helps them use the power of advanced AI models with no need for technical knowledge.

Data privacy

You can deploy Open WebUI locally or in a private environment. Such deployment is required for users concerned about privacy and data security.

1.2 How does an AI chatbot process user queries?

When you enter a user prompt, several processes happen in the background to generate the response.

1. **Input processing.** The AI first processes the text of your prompt to understand its meaning. This involves identifying the subject, intent and any details or context provided. This process is called **Natural Language Understanding** (NLU).
2. **Contextual analysis.** If you are interacting with AI in a session where you have already asked previous questions, the AI considers the context of the conversation. This results in more relevant and coherent answers.

3. **Knowledge retrieval.** The AI retrieves information from its pre-trained knowledge base. This database includes facts, data and concepts that the AI has been trained on. AI models can also utilize retrieval-augmented generation (RAG) systems to get contextual information from the data provided by the organization. If the AI has access to real-time data, it can search for the latest information online to provide an up-to-date response.
4. **Response generation.** Using natural language generation (NLG) techniques, the AI constructs a coherent and grammatically correct response based on the information it retrieved.
5. **Output.** The AI delivers the response in a requested form, usually in a human-readable format. This can be a detailed explanation, a step-by-step guide, or a customized image, depending on the complexity of your query.
6. **Feedback Loop** (*Optional*). In specific AI systems, your feedback or follow-up questions can help refine future responses, allowing the AI to improve its answers over time.

2 User interface basics

The Open WebUI interface consists of three main parts.

Top panel

Contains controls to manage tasks related to the current chat, such as:

- Maximizing the chat window
- Selecting an AI model for the current chat
- Viewing and managing advanced settings for the current chat
- Changing settings related to the current user
- Viewing archived chats of the current user
- Accessing the *Admin Panel*

Left sidebar

Contains links to perform the following tasks:

- Start a new chat
- Access the administrator's *Workspace*
- Search the content of the current chat
- Browse through the history of your chats

Main chat window

Displays your recent queries and corresponding answers provided by the AI. By using the prompt field at the bottom, you can accomplish the following tasks related to the current chat:

- Enter the query that you want the AI to answer
- Upload custom documents that you want the AI to process and use as a source of information when answering
- Select a document, collection of documents, or URL to extend the AI model's knowledge base
- Select a preconfigured AI model for the current chat
- Interrupt the chatbot from answering if you are already satisfied with the provided information

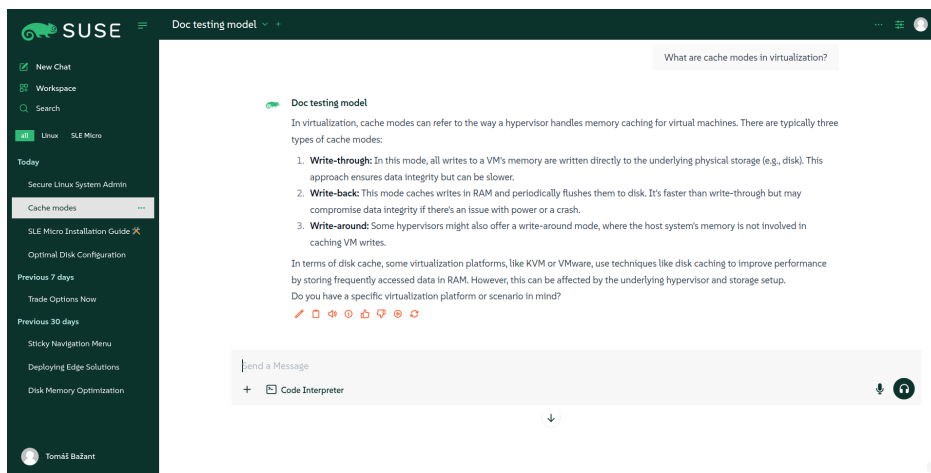


FIGURE 2.1: OPEN WEBUI USER INTERFACE [#FIG-OPENWEBUI-UI]

2.1 Workspace



Important

You must have Open WebUI administrator privileges to access configuration screens or settings mentioned in this section.

The *Workspace* area of the Open WebUI is a place where you can manage important parts of the AI stack. To access it, click *Workspace* at the top of the left panel. *Workspace* consists of the following parts:

Models

Manage existing AI modules or add your custom AI module based on an existing one. Refer to <https://documentation.suse.com/suse-ai/1.0/html/openwebui-configuring/index.html#openwebui-managing-models> for more details and related procedures.

Knowledge

Manage information sources—such as custom documents—that the users can use to enhance the current AI model’s knowledge base. This helps making the model’s responses more contextual. Refer to <https://documentation.suse.com/suse-ai/1.0/html/openwebui-configuring/index.html#openwebui-managing-knowledgebase> for more details and related procedures.

Prompts

Define the system prompts that guide the AI model to respond accurately in the style and format that you prefer. Refer to <https://documentation.suse.com/suse-ai/1.0/html/openwebui-configuring/index.html#openwebui-managing-prompts> for more details and related procedures.

Tools

Tools include a collection of Python snippets that enhance interaction and expand functionality for working with AI models. Tools can, for example, integrate additional data sources into the model knowledge base, such as databases.

2.2 Admin Panel



Important

You must have Open WebUI administrator privileges to access configuration screens or settings mentioned in this section.

The *Admin Panel* is a centralized control interface for administrators to manage system settings, user accounts and overall application functionality.

To access the *Admin Panel*, click your avatar button at the top right of the Open WebUI screen and select *Admin Panel*.

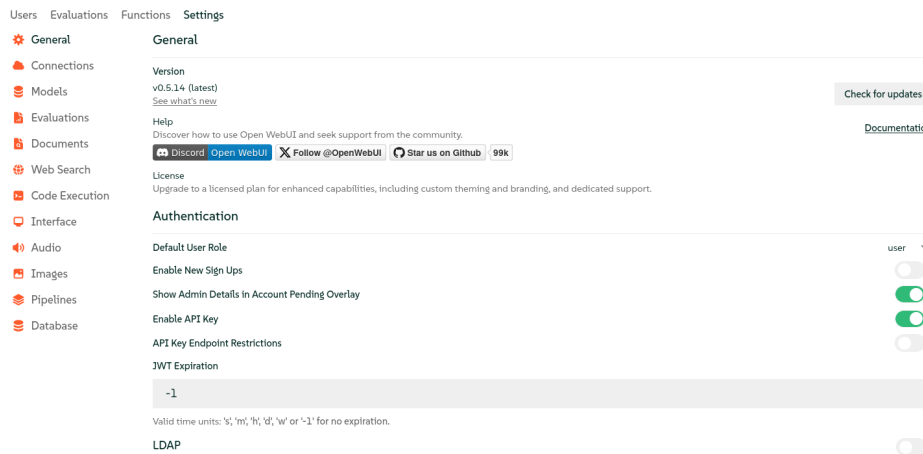


FIGURE 2.2: ADMIN PANEL [#FIG-OPENWEBUI-ADMIN-PANEL]

3 The chat window

The chat window is the primary interface for interacting with the AI, allowing you to send prompts and receive responses.

This procedure describes the basic steps for interacting with an AI model using the Open WebUI chat window.

1. At the top left of the chat window, verify that an AI model is selected. If no model is selected, select the preferred one from the drop-down list.



Tip: Your default model

To make the selected model your default one, click *Set as default* next to the AI model name.



Tip: Multiple AI modules

You can select multiple AI modules by clicking the plus sign next to the name of the already selected module.

2. Enter your prompt that you want AI to process in the chat input field.



Tip: Audio prompt

If you prefer speaking rather than writing, click the small microphone icon to the right of the chat input field. Then say your prompt aloud and click the small check mark when finished.

3. Confirm with **Enter** or click the "up" arrow on the right of the chat input field so that the AI model can process your prompt. Wait for the response. .AI answering with two models openwebui_2_responses

What are basic steps to install SLE micro?



llama3.1:latest

Basic steps to install SUSE Linux Enterprise Micro (SLE Micro):

1. Download the SLE Micro ISO image.
2. Burn it to a USB drive or CD/DVD.
3. Boot it from the installation media.

That's about it! The rest of the process is automated and will guide you through the setup.



SLES Expert

The basic steps to install SLES Micro (SUSE Linux Enterprise Server Micro) are:

1. Download the SLE Micro ISO image from the SUSE website.
2. Create a bootable USB drive or CD/DVD with the ISO image.
3. Boot your system from the SL Micro installation media.
4. Follow the graphical installer to select language, keyboard layout, and other settings as needed.

That's a high-level overview!



4. Depending on the number of selected AI models, one or multiple responses arrive. Below each response, there is a set of icons that help you perform the following tasks on the response:

- **Edit** the response in a Markdown format in case you want to copy it for later use.
- **Copy** the response to the clipboard.
- Let Open WebUI **read** the response aloud.
- **Mark** the response as **good** or **bad**. This way, the model learns to more effectively address the same or related subjects.
- **Regenerate** the response if you are not happy with its current version. You can then cycle between individual versions of responses with the small left and right arrows.

4 The chat input field

For a new chat, the chat input field is located at the center of the Open WebUI chat window. During a chat session, the chat window slides to the bottom. Its main purpose is to accept a user prompt so that the AI can process it and respond (see [Chapter 3, The chat window](#)). Besides that, the chat input field provides extended functionality that can help you achieve the following tasks.

4.1 The chat input field

For a new chat, the chat input field is located at the center of the Open WebUI chat window. During a chat session, the chat window slides to the bottom. Its main purpose is to accept a user prompt so that the AI can process it and respond. Besides that, the chat input field provides extended functionality that can help you achieve the following tasks.

4.1.1 Selecting an AI model from the chat input field

You can specify which model you want the AI to use when responding to the prompts in your current chat. The selected model temporarily overrides your default model or the model you selected in the top-right corner of the chat window.

REQUIREMENTS

- At least one AI model must be downloaded and available to Open WebUI. Refer to the section [Setting base AI models](https://documentation.suse.com/suse-ai/1.0/html/openwebui-configuring/index.html#openwebui-setting-base-models) (<https://documentation.suse.com/suse-ai/1.0/html/openwebui-configuring/index.html#openwebui-setting-base-models>)  for more details.
1. In the chat input field, type the @ character.
 2. From the drop-down list that appears, select one of the preconfigured AI models you want to talk to. You can only select one model at a time.

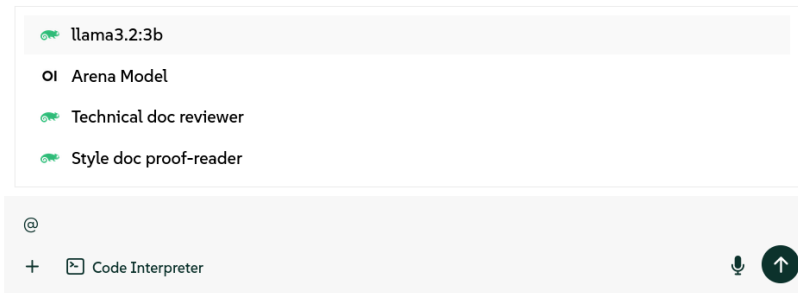


FIGURE 4.1: SELECTING AN AI MODEL

Your selection is confirmed by the *Talking to MODEL_NAME* message right above the chat input field.

3. Type your prompt and confirm with **Enter** or by clicking the "up" arrow to the right of the chat input field.



FIGURE 4.2: PROMPT FOR A SELECTED MODEL

4. To deactivate the previously selected model from the current chat, click the "cross" icon to the right of the model name.

4.2 Specifying preconfigured documents, collections or external URLs from the chat input field

Besides prompting preconfigured AI models, you can "talk" to documents or collections of documents uploaded by the administrator. You can also specify external URLs whose content will be processed. AI then responds to your prompts based on the specified information sources.

This procedure describes how to select preconfigured documents, collections of documents, or external URLs as information sources for AI answers from the chat input field.

REQUIREMENTS

- At least one knowledge base collection needs to be preconfigured. Refer to [Managing a knowledge base \(https://documentation.suse.com/suse-ai/1.0/html/openwebui-configuring/index.html#openwebui-managing-knowledgebase\)](https://documentation.suse.com/suse-ai/1.0/html/openwebui-configuring/index.html#openwebui-managing-knowledgebase) to learn how to create one.

1. In the chat input field, type the `#` character.
2. From the drop-down list that appears, select one of the preconfigured documents or a collection of documents whose content you want AI to use as an information source. You can select multiple documents, one by one.

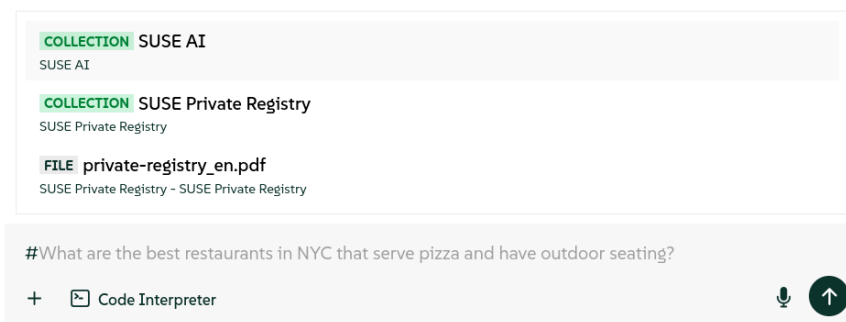


FIGURE 4.3: SELECTING DOCUMENTS AND COLLECTIONS

3. Instead of selecting the preconfigured documents, you can start typing `http:` followed by the full valid URL to the page that you want AI to process. After you confirm it with **Enter**, AI starts processing it.

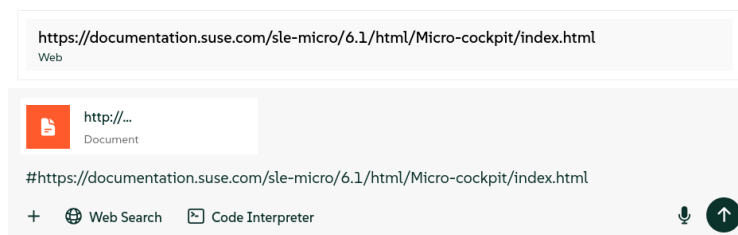


FIGURE 4.4: ADDING A URL SOURCE

4. Type your prompt and confirm with **Enter** or by clicking the "up" arrow to the right of the chat input field.

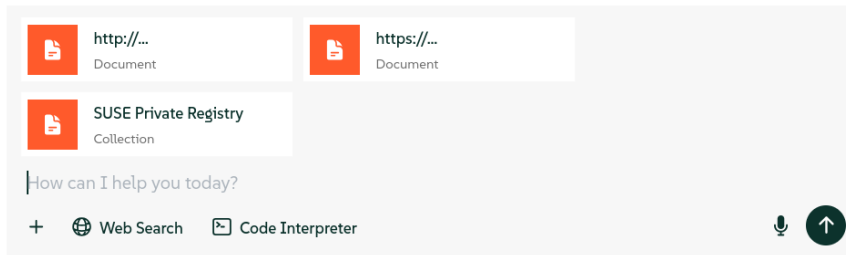


FIGURE 4.5: PROMPT WITH SELECTED DOCUMENTS AND COLLECTIONS

5. To deactivate the previously selected document from the current chat, hover over its name and click the "cross" icon to the right of its name.

4.3 Adding custom data sources from the chat input field

Besides prompting preconfigured AI models, you can "talk" to custom data sources specified in the chat input field. AI processes these sources so that it can respond based on their content.

This procedure describes how to upload custom documents as information sources for AI answers from the chat input field.

1. Click the **+** sign to the left of the chat input field.
2. Click *Upload Files* and specify the document from your disk to process. You can upload multiple documents at the same time.
3. Type your prompt and confirm with **Enter** or by clicking the "up" arrow to the right of the chat input field.

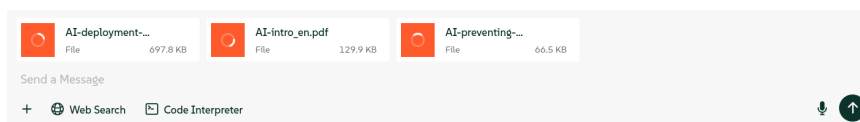


FIGURE 4.6: PROMPT WITH UPLOADED DOCUMENTS

4. To deactivate the previously selected document from the current chat, hover over its name and click the "cross" icon to the right of its name.

4.4 Selecting a preconfigured system prompt from the chat input field

System prompts define the mood, context or style for user interactions. This section details how to select a preconfigured system prompt from the input field.

REQUIREMENTS

- At least one system prompt must be preconfigured. Refer to [Managing system prompts \(https://documentation.suse.com/suse-ai/1.0/html/openwebui-configuring/index.html#openwebui-managing-prompts\)](https://documentation.suse.com/suse-ai/1.0/html/openwebui-configuring/index.html#openwebui-managing-prompts) to learn how to create one.
1. In the chat input field, type the `/` character.
 2. From the drop-down list that appears, select the system prompt that you want to apply for the current chat.

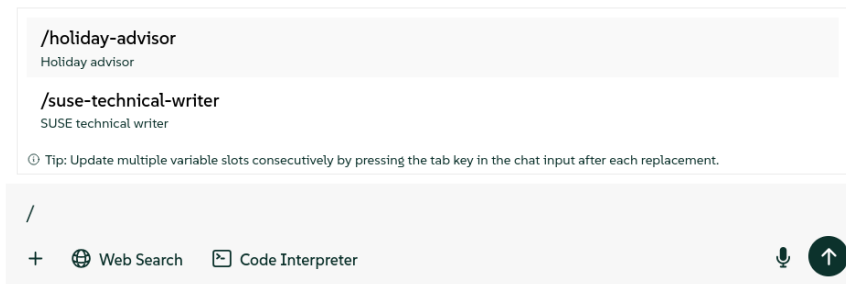


FIGURE 4.7: PRECONFIGURED SYSTEM PROMPT

3. The content of the selected system prompt is pasted to the chat input field. Confirm it with **Enter** or by clicking the "up" arrow to the right of the chat input field.

4.5 Selecting mcpo services from the chat input field

MCP servers offer additional services that enhance the AI model responses and make them more specific. This section details how to enable individual mcpo services from the input field.

REQUIREMENTS

- At least one MCP server must be preconfigured. Refer to [Installing mcpo \(https://documentation.suse.com/suse-ai/1.0/html/AI-deployment-intro/index.html#mcpo-installing\)](https://documentation.suse.com/suse-ai/1.0/html/AI-deployment-intro/index.html#mcpo-installing) to learn how to configure one.

1. Click the "+" sign to the left of the chat input field.
2. From the drop-down list that appears, select the MCP service that you want to include for the current chat.

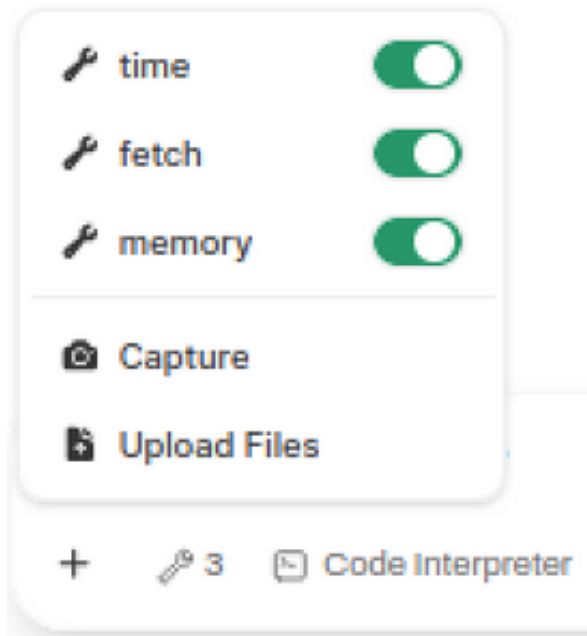


FIGURE 4.8: SELECTING MCP SERVICES SELECTING_MCP_SERVICES

3. Enter a prompt that triggers a call to one of the selected MCP services. You should see the tool invocation listed below the response.

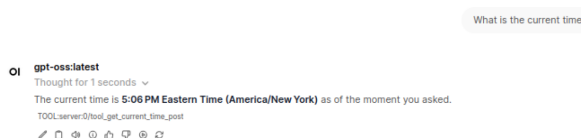


FIGURE 4.9: RESPONSE FROM AN MCP SERVICE SELECTING_MCP_ANSWER



Tip

For more details about mcpo integration and usage with Open WebUI, refer to the [Open WebUI integration documentation \(https://docs.openwebui.com/features/extensibility/plugin/tools/openapi-servers/mcp\)](https://docs.openwebui.com/features/extensibility/plugin/tools/openapi-servers/mcp).

4.6 Enabling native function calling

Native function calling is a process in which a client—such as the SUSE AI chatbot—instructs its LLM to query an MCP server directly, bypassing the mcpo proxy.

It involves the following steps:

1. A client LLM connects to an MCP server.
2. The MCP server exposes tools (functions) with names, argument schemas and returns.
3. The client calls a suitable tool and its functions with appropriate arguments.
4. The tool then returns the result of the function call to the client and the client includes the result in its response.



Note: LLMs with native function calling

For this to work effectively, the selected model must support native tool calling. Certain models may claim such support but often produce poor results. For the best experience, Open WebUI recommends using GPT-4o or another OpenAI model that supports function calling natively.

ENABLING NATIVE FUNCTION CALLING FOR THE CURRENT CHAT

1. In the top right of the Open WebUI window, click the *Chat controls* icon.
2. Unfold the *Advanced Params* tab and set the *Function Calling* from Default to Native.

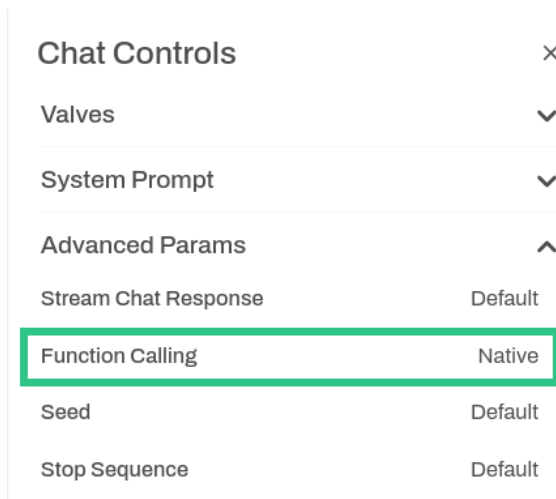


FIGURE 4.10: ENABLING NATIVE FUNCTION CALLING FIG_OWUI_ENABLING_NFC

3. Close the *Chat controls* window to apply the change.

4.6.1 For more information

You may find the following information sources useful:

- [mcpo homepage on GitHub \(https://github.com/open-webui/mcpo\)](https://github.com/open-webui/mcpo) ↗
- [Open WebUI Integration documentation \(https://docs.openwebui.com/features/extensibility/plugin/tools/openapi-servers/open-webui\)](https://docs.openwebui.com/features/extensibility/plugin/tools/openapi-servers/open-webui) ↗
- [Open WebUI support for MCP \(https://docs.openwebui.com/features/extensibility/mcp\)](https://docs.openwebui.com/features/extensibility/mcp) ↗
- [The MCP servers' GitHub repository \(https://github.com/modelcontextprotocol/servers\)](https://github.com/modelcontextprotocol/servers) ↗

A Glossary

Air gap

A security measure where a computer network is physically isolated from unsecured networks, including the public Internet.

AI, artificial intelligence

Refers to the simulation of human intelligence in machines that are designed to learn and solve problems like humans. Enables computers to understand language, make decisions and improve from experience.

Batch size

The number of samples processed simultaneously during model inference, affecting processing speed and resource utilization.

BYOC, bring your own certificate

A practice allowing users to provide their own SSL/TLS certificates for securing communications instead of using default or auto-generated ones.

CA, certification authority

An entity that issues digital certificates to verify the identity of certificate holders and ensure secure communications.

Chat template

A structured format for organizing conversations between users and AI models, defining how system prompts, user inputs, and AI responses are formatted and processed.

Context window

The maximum amount of text (tokens) that an AI model can process at once, including both the input prompt and generated response.

Chain-of-thought (CoT) prompting

A prompting technique that guides AI models to break down complex problems into step-by-step reasoning processes, improving response accuracy and transparency.

CRD, custom resource definitions

Extensions of the Kubernetes API that allow users to define custom resources and their controllers in a Kubernetes cluster.

CUDA, Compute Unified Device Architecture

NVIDIA's parallel computing platform and programming model used to accelerate AI workloads on GPU hardware.

Data leakage

The unintended exposure of sensitive information through AI model responses, potentially compromising data security and privacy.

Embeddings

Numerical representations of data (text, images, etc.) in a high-dimensional space that capture semantic relationships and enable AI models to process information effectively.

Fine-tuning

The process of further training a pre-trained AI model on specific data to adapt it for particular tasks or domains, improving its performance for targeted applications.

GenAI, generative AI

A type of artificial intelligence that can create new content such as text, images or music.

GPU, graphics processing unit

Specialized hardware designed for parallel processing. In AI applications, GPUs accelerate model training and inference tasks.

Hallucination

An AI behavior where the model generates false or unsupported information that appears plausible but has no basis in provided context or real facts.

Helm

A package manager for Kubernetes that helps install and manage applications. Helm uses charts to define, install and upgrade complex Kubernetes applications.

Helm chart

A package format for Kubernetes applications that contains all resource definitions needed to deploy and configure application workloads.

IaC, infrastructure as code

The practice of managing and provisioning infrastructure through machine-readable definition files rather than manual processes.

Inference

The process of using a trained AI model to make predictions or generate outputs based on new input data.

Kubernetes pods

The smallest deployable units in Kubernetes that can host one or more containers, sharing networking and storage resources.

LLM, large language model

An advanced AI model trained on amounts of text data to understand and generate human-like text. Can perform tasks like translation, summarization and answering questions.

Model weights

The learned parameters of an AI model that determine how it processes inputs and generates outputs. These weights are adjusted during training to optimize model performance.

NLG, natural language generation

A process of automatically generating human-like text from structured data or other forms of input. Designed to convert raw data into coherent and meaningful language easily understood by humans.

NLU, natural language understanding

A process AI uses to analyze and understand the meaning of the input query.

NVIDIA GPU driver

Software that enables communication between the operating system and NVIDIA graphics hardware, essential for GPU-accelerated AI workloads.

NVIDIA GPU Operator

A Kubernetes operator that automates the management of NVIDIA GPUs in container environments, handling driver deployment, runtime configuration, and monitoring.

Ollama

An open source framework for running and serving AI models locally. Ollama simplifies the process of downloading, running and managing large language models.

OpenGL

A cross-platform API for rendering 2D and 3D graphics, commonly used in visualization applications and GPU-accelerated computing.

Prompt Engineering

The practice of crafting effective input queries to AI models to obtain desired and accurate outputs. Good prompt engineering helps prevent hallucinations and improves response quality.

Prompt injection

A security vulnerability where malicious inputs attempt to override or bypass an AI model's system prompt or safety constraints.

Quantization

A technique to reduce AI model size and computational requirements by converting model parameters to lower precision formats while maintaining acceptable performance.

RAG, retrieval-augmented generation

A technique that enhances AI responses by retrieving relevant information from a knowledge base before generating answers, improving accuracy and reducing hallucinations.

RBAC, role-based access control

A security model that restricts system access based on roles assigned to users, managing permissions and authorization in Kubernetes clusters.

Semantic search

A search method using AI to understand the meaning and context of queries rather than just matching keywords, enabling more relevant results.

System prompt

Initial instructions given to an AI model that define its behavior, role and response parameters. System prompts help maintain consistent and appropriate AI responses.

Temperature

A parameter controlling the randomness in AI model outputs. Lower values produce more focused and deterministic responses, while higher values increase creativity and variability.

Token

The basic unit of text processing in AI models, representing parts of words, characters or symbols. Models process text by breaking it into tokens for analysis and generation.

Top-K

A parameter that limits token selection during text generation to the K most likely next tokens, helping control output quality and relevance.

Top-P

Also known as nucleus sampling, a parameter that selects from the smallest set of tokens whose cumulative probability exceeds P, providing dynamic control over text generation diversity.

Vector database

A specialized database designed to store and efficiently query high-dimensional vectors that represent data in AI applications, enabling similarity searches and semantic operations.

Vector store

A specialized storage system optimized for managing and querying vector embeddings, essential for semantic search and RAG implementations in AI applications.

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