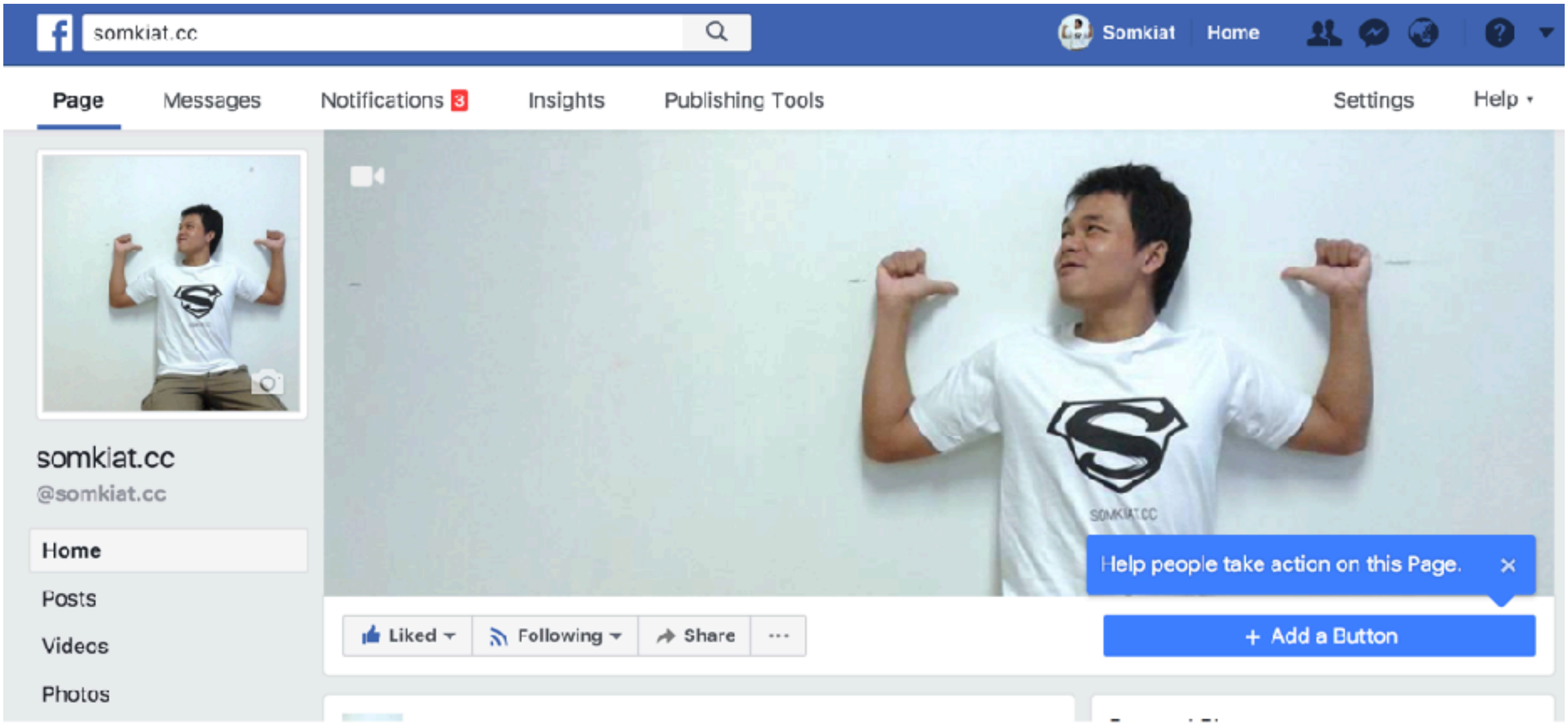
สยามชำนาญกิจ
SIAM CHAMNAN KIT

Claude AI
from basic to advance



https://github.com/up1/workshop-ai-with-technical-team

Goals

Integrate Generative AI in Software Development
Optimize code quality
Team up with AI on coding tasks
Develop innovative solutions

Software Development

Requirement | Design | Develop | Testing | Deploy

Generative AI

Improve Productivity … (Replace human !!)

Learning Path

AI/ML

LLM, SLM

Prompt Engineer

AI in Software development

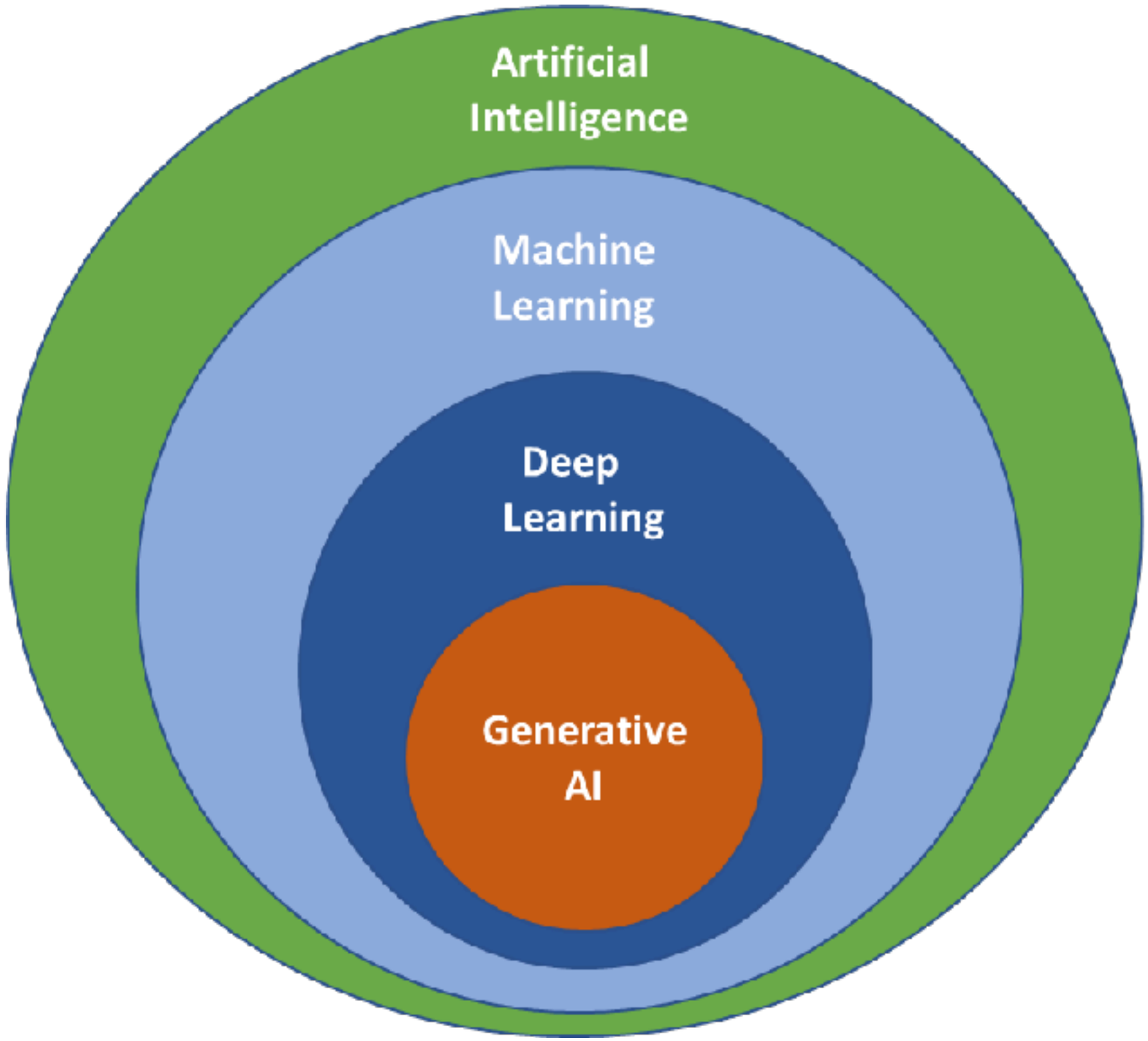
Develop AI/LLM app

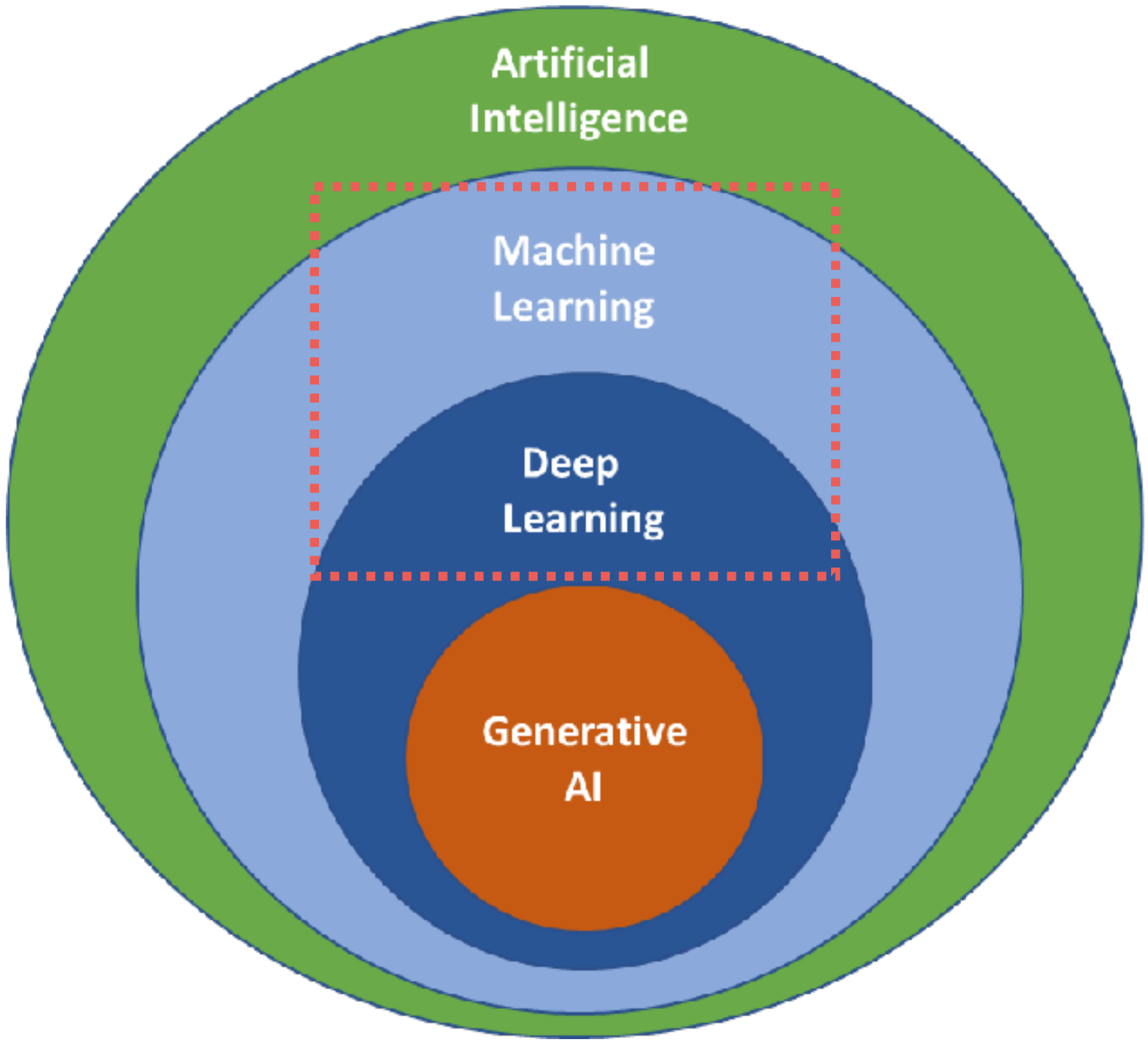
RAG

Use cases and workshops with Claude AI

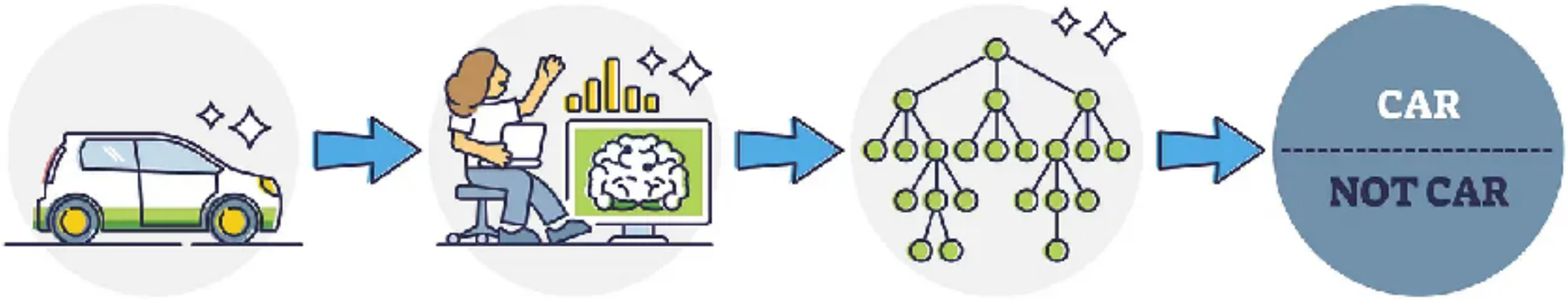
Module 1

AI and Machine Learning (ML)

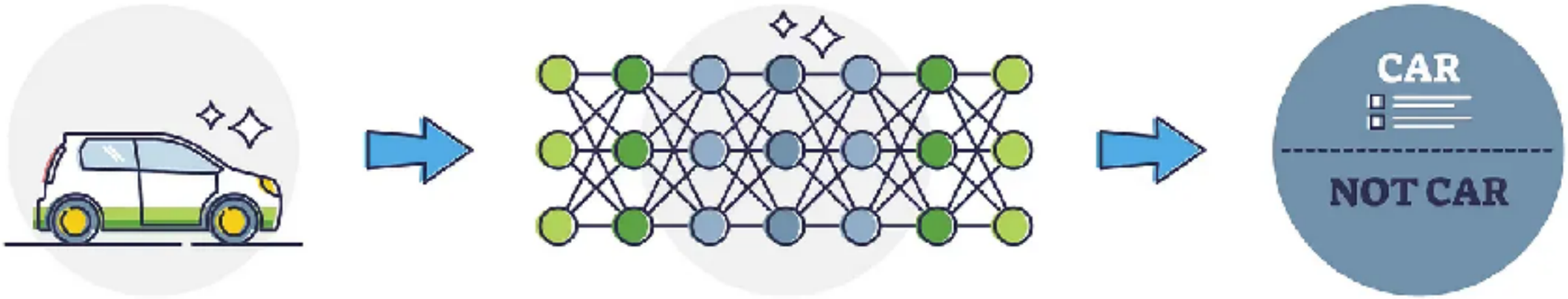




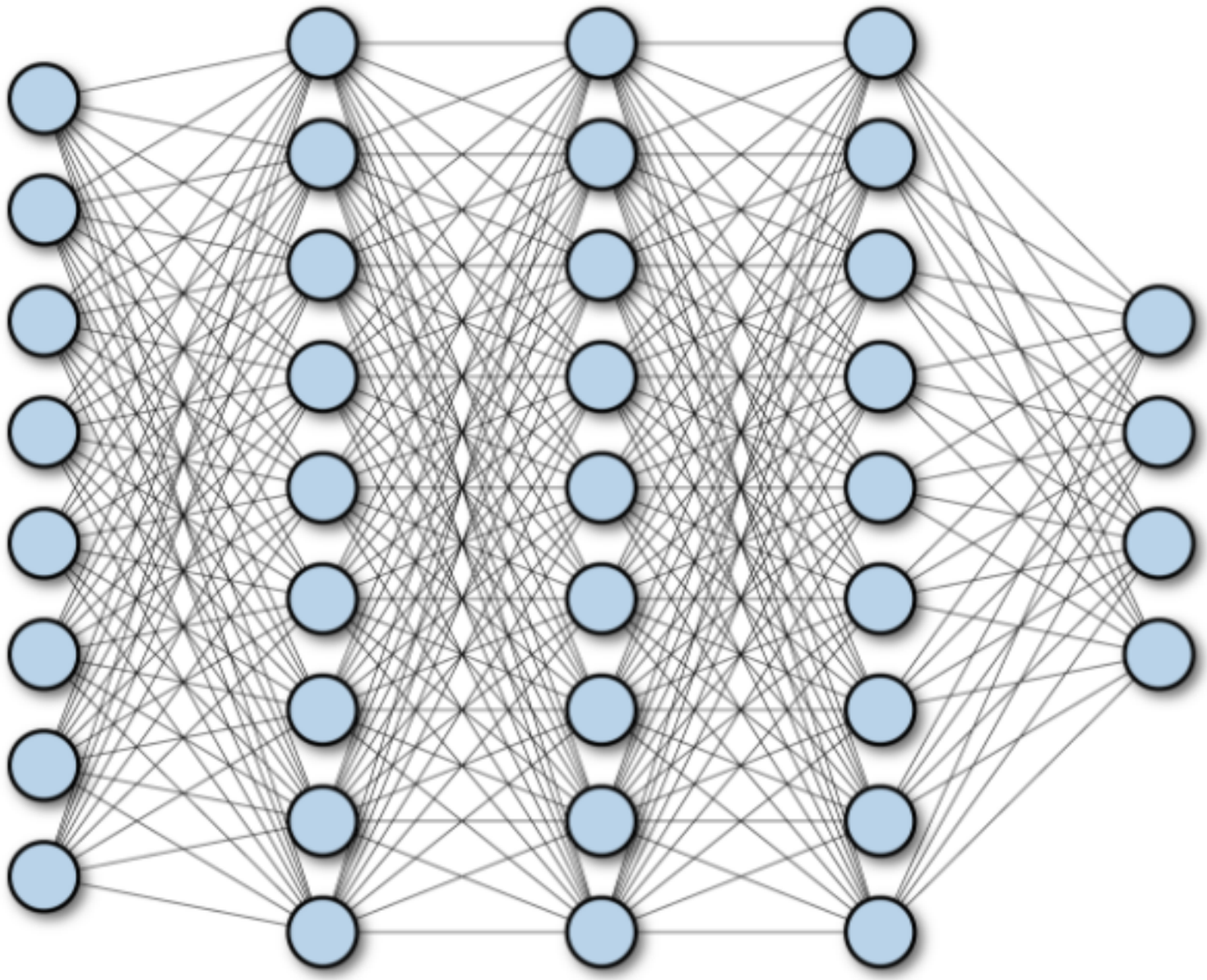
MACHINE LEARNING



DEEP LEARNING



Multilayer Deep Fully Connected Network



Neural Network !!

ANN

Artificial Neural Network

General purpose

Variety of data types

Simple data

CNN

Convolutional Neural Network

Spatial data

Image

RNN

Recurrent Neural Network

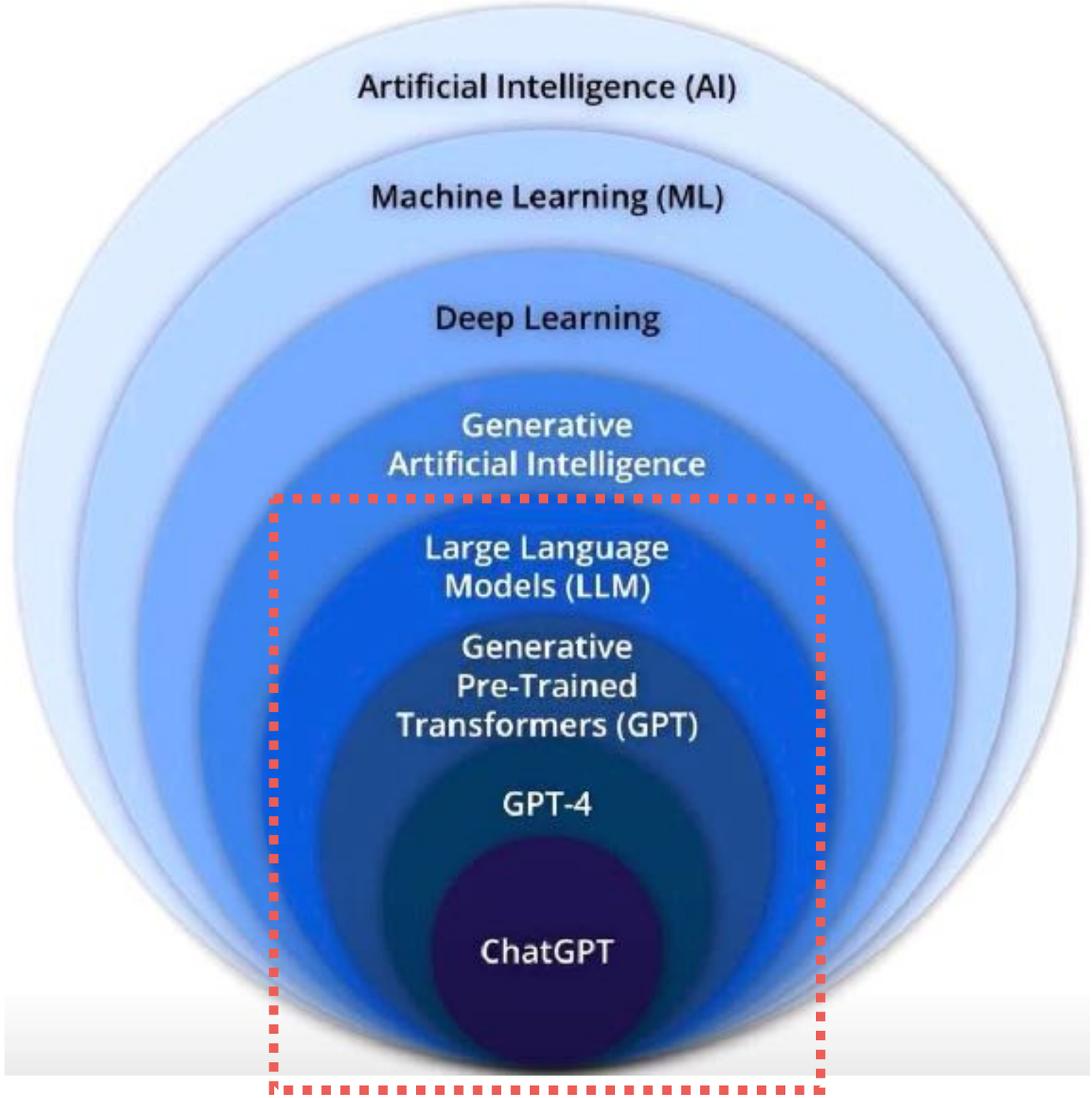
Sequencial data

Time-series data

Text

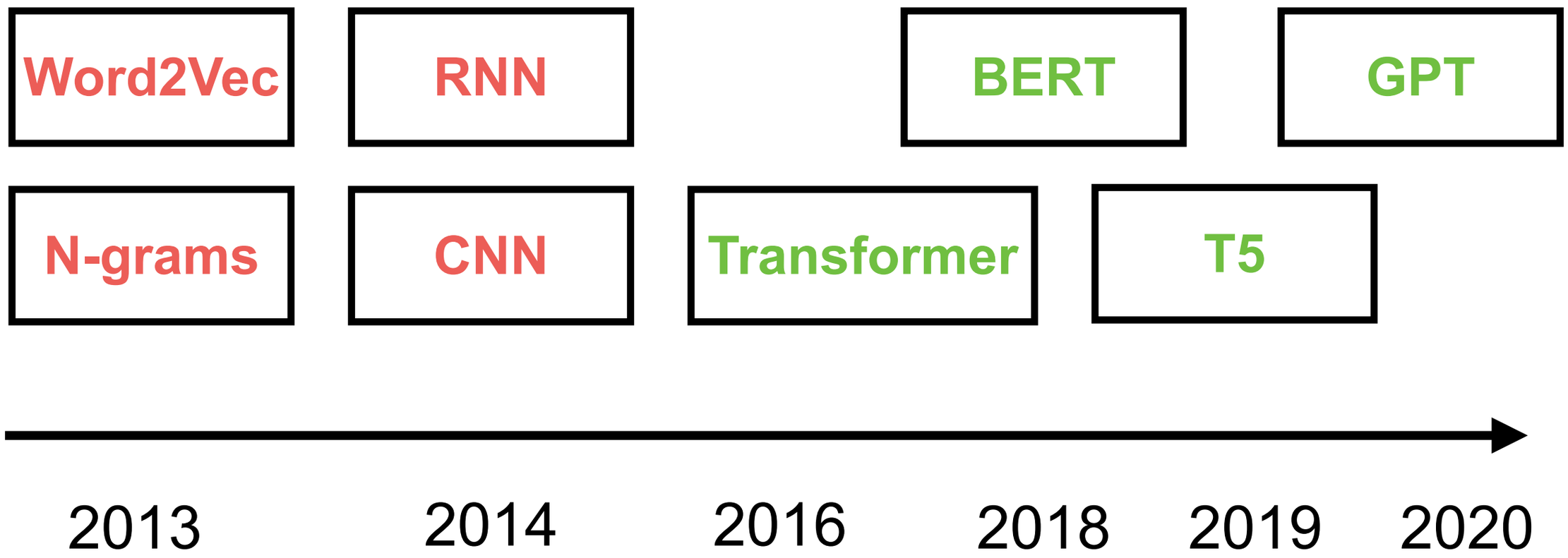
LSTM

Long Short-Term Memory

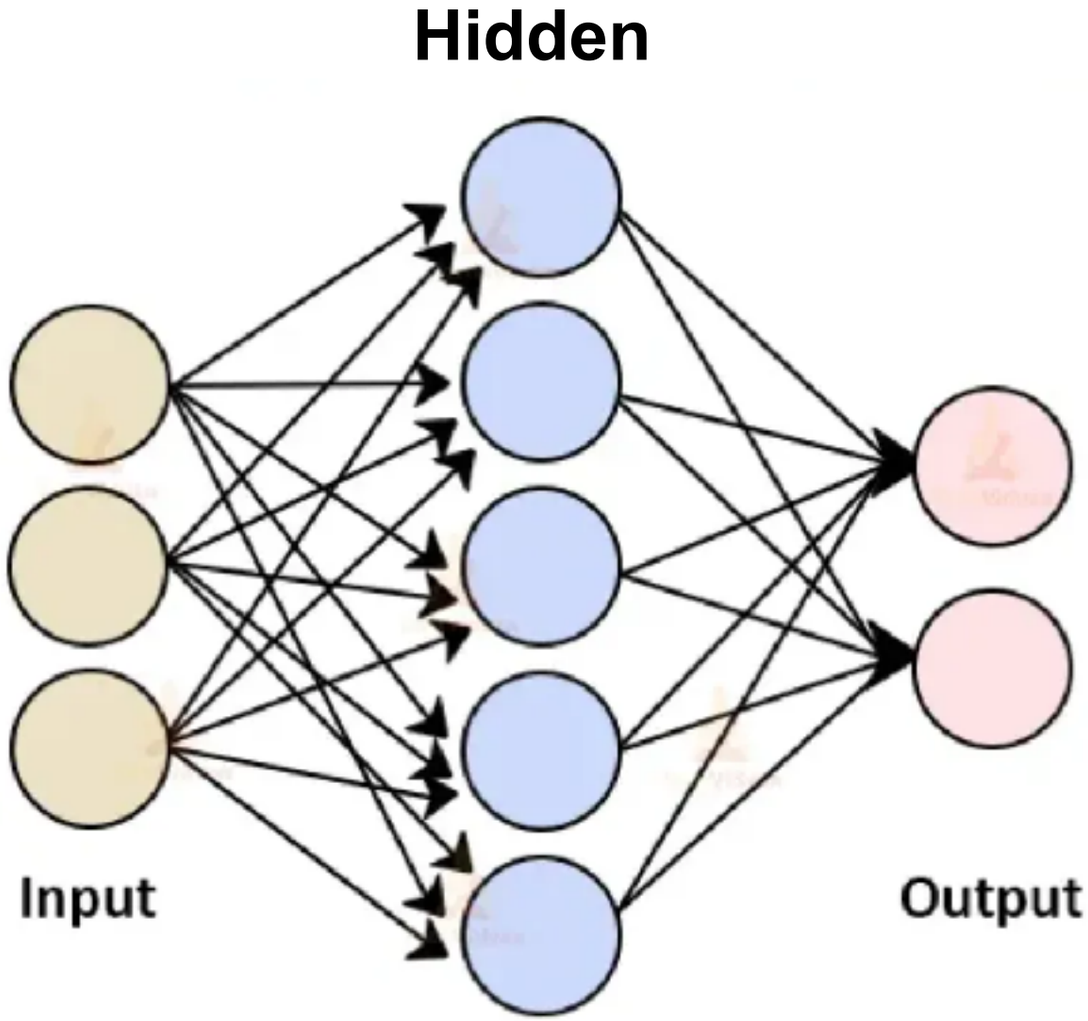


Language Model History

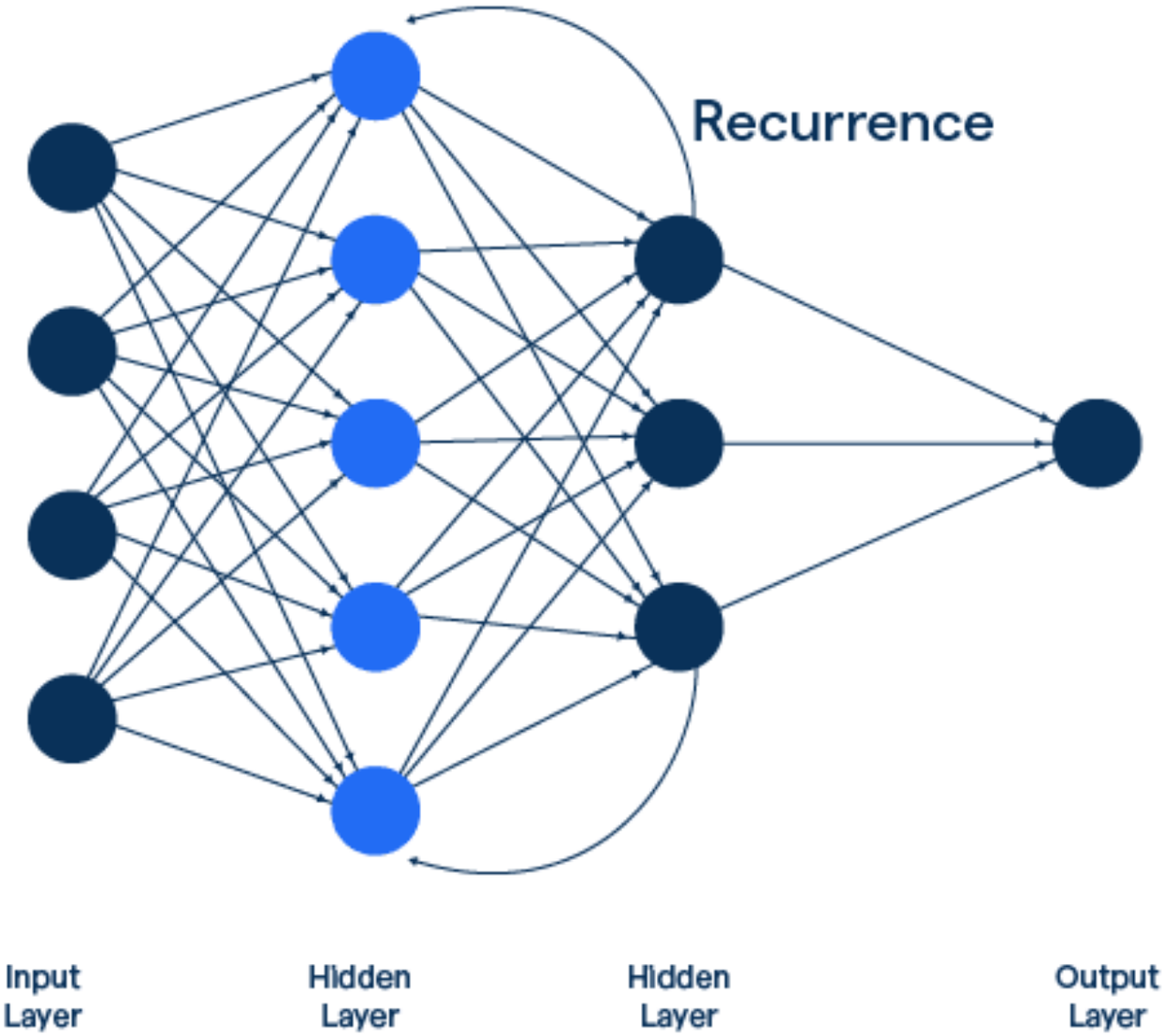
Trained to understand and generate human language



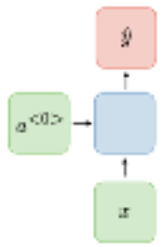
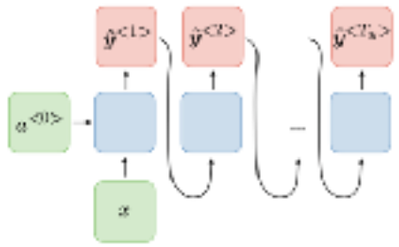
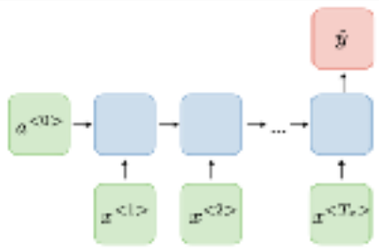
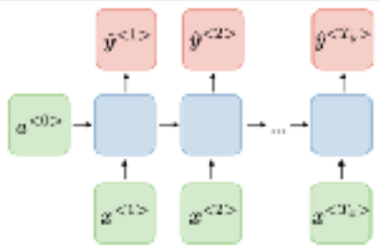
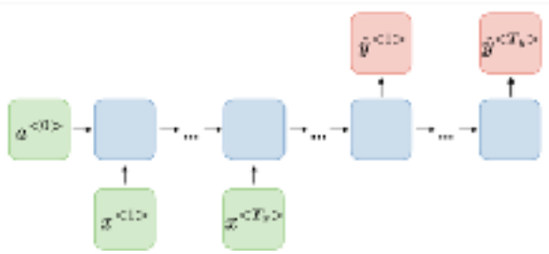
RNN + LSTM



Recurrent Neural Network

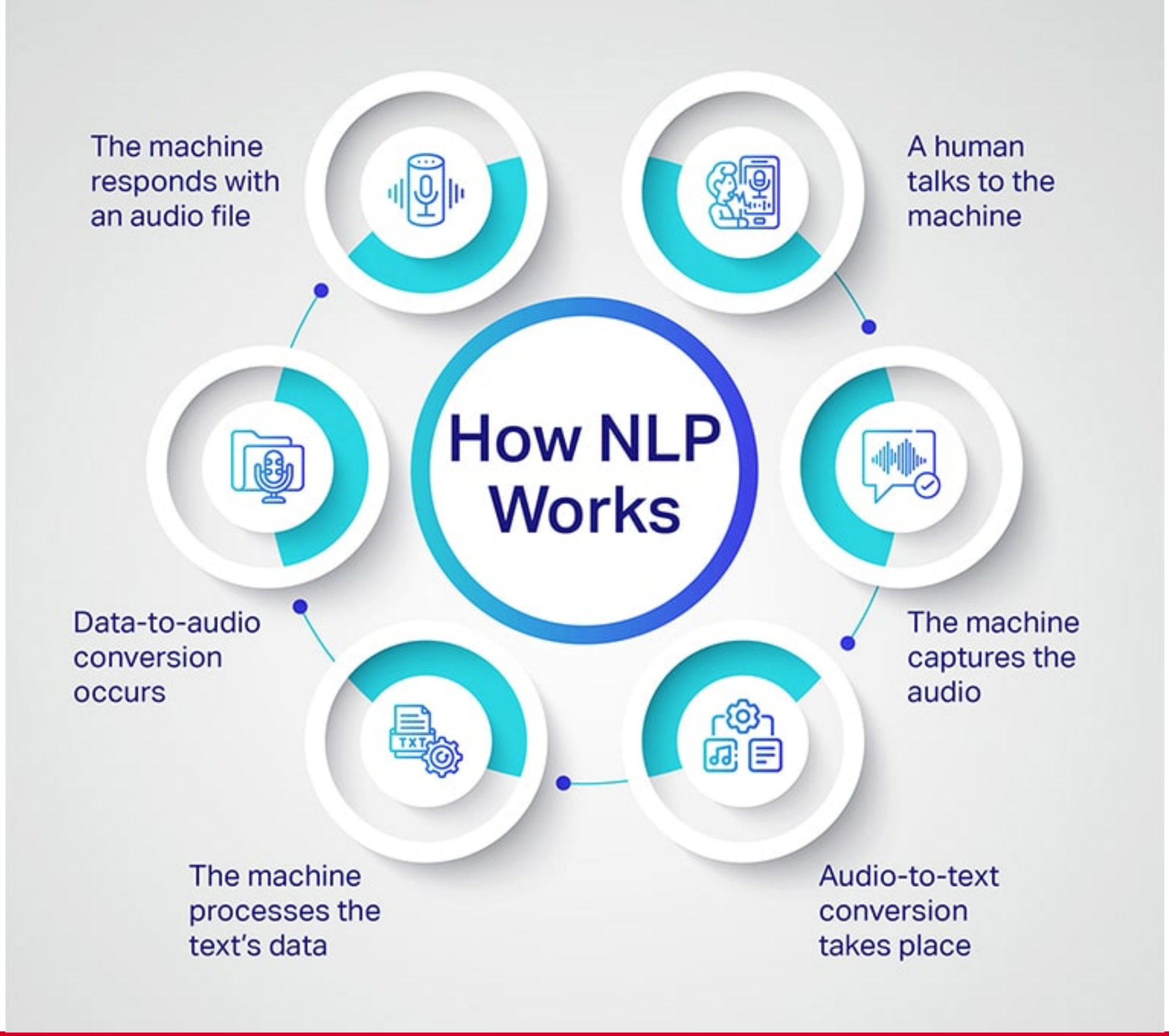


Types of RNN

Type of RNN	Illustration	Example
One-to-one $T_x = T_y = 1$		Traditional neural network
One-to-many $T_x = 1, T_y > 1$		Music generation
Many-to-one $T_x > 1, T_y = 1$		Sentiment classification
Many-to-many $T_x = T_y$		Name entity recognition
Many-to-many $T_x \neq T_y$		Machine translation

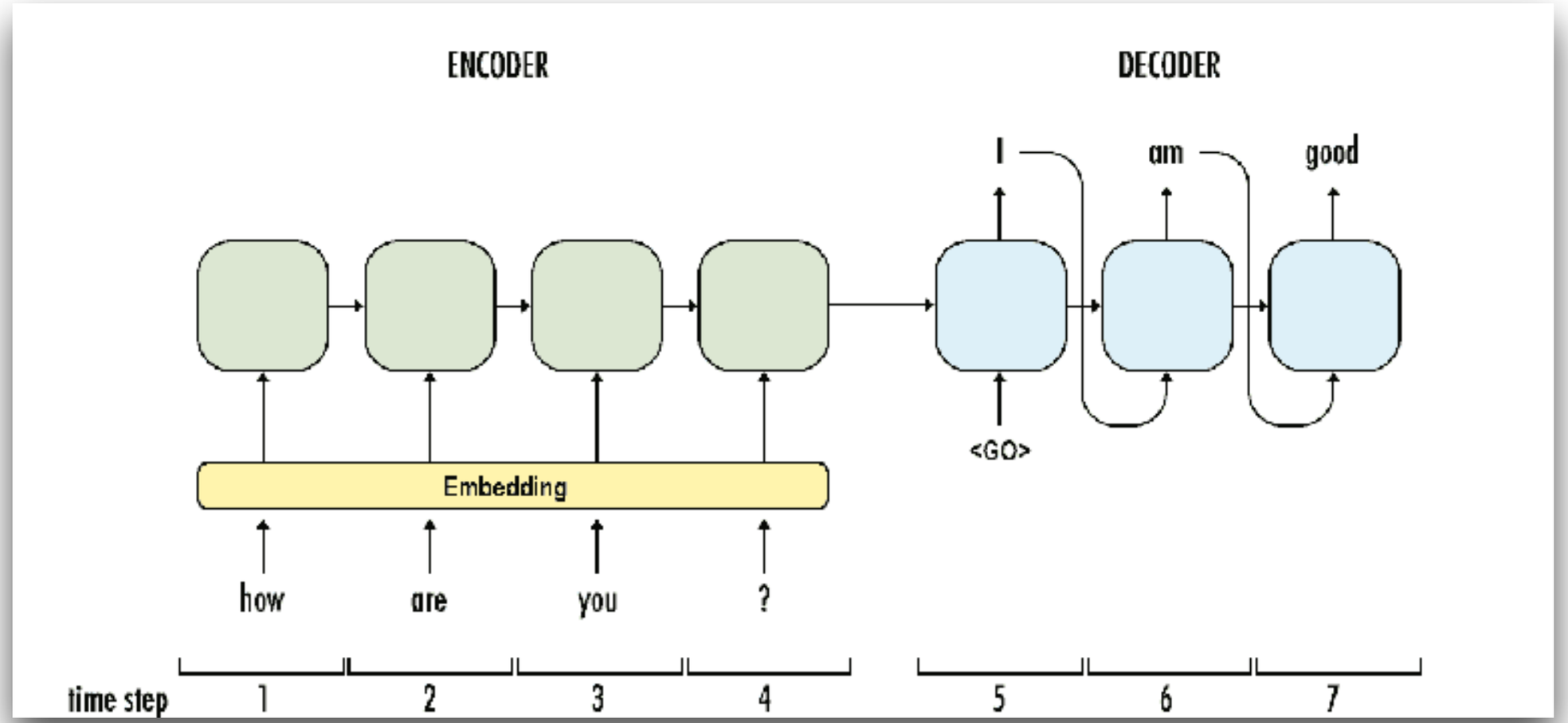
https://aman.ai/primers/ai/dl-comp/

How to apply RNN/LSTM in NLP (Natural Language Processing) task ?



Sequence-to-Sequence model

Encoder-decoder model
Convert to **fixed length vector** data



Problems with RNN ?

Long input data

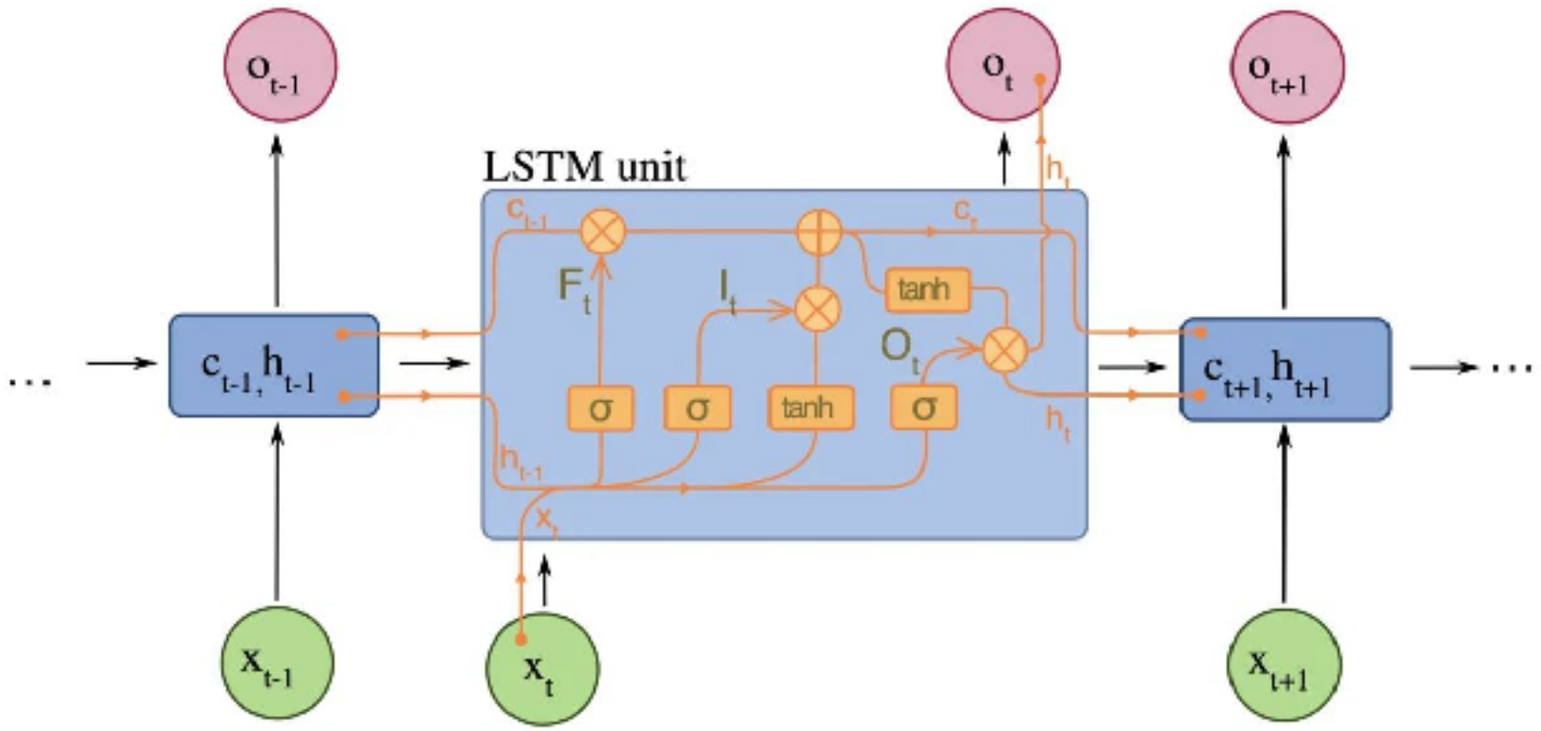
Not sequence data

Slow to train (sequential processing)

https://jinglescode.github.io/2020/05/27/illustrated-guide-transformer/

LSTM

Improve memory and deal with longer sequences than RNN



Slow

Complex

Drawback of RNN encoder-decoder

Fixed-length vector !!

Can’t store large information

Different sentence with similar words BUT with different meanings !!

Attention Mechanism

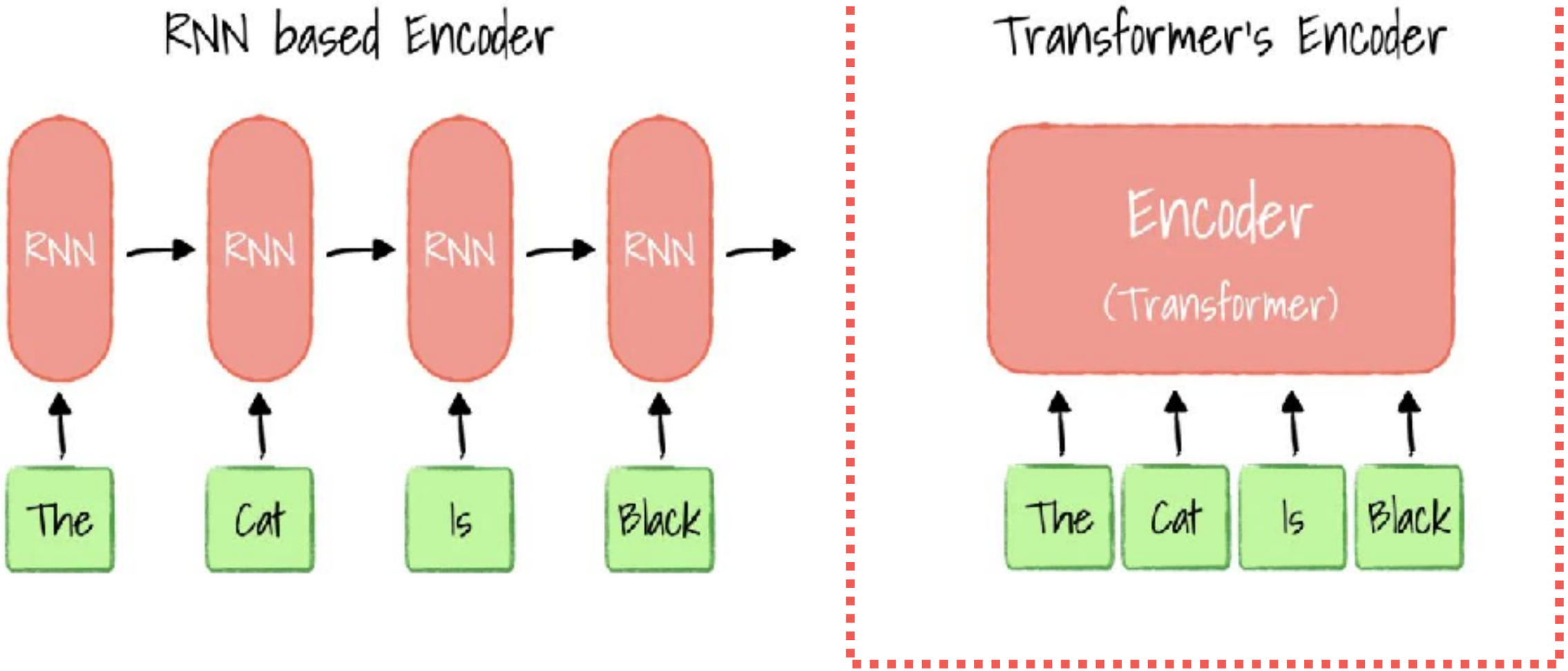
Improve performance of encoder-decoder

BUT still have bottleneck with RNN

https://arxiv.org/pdf/1409.0473

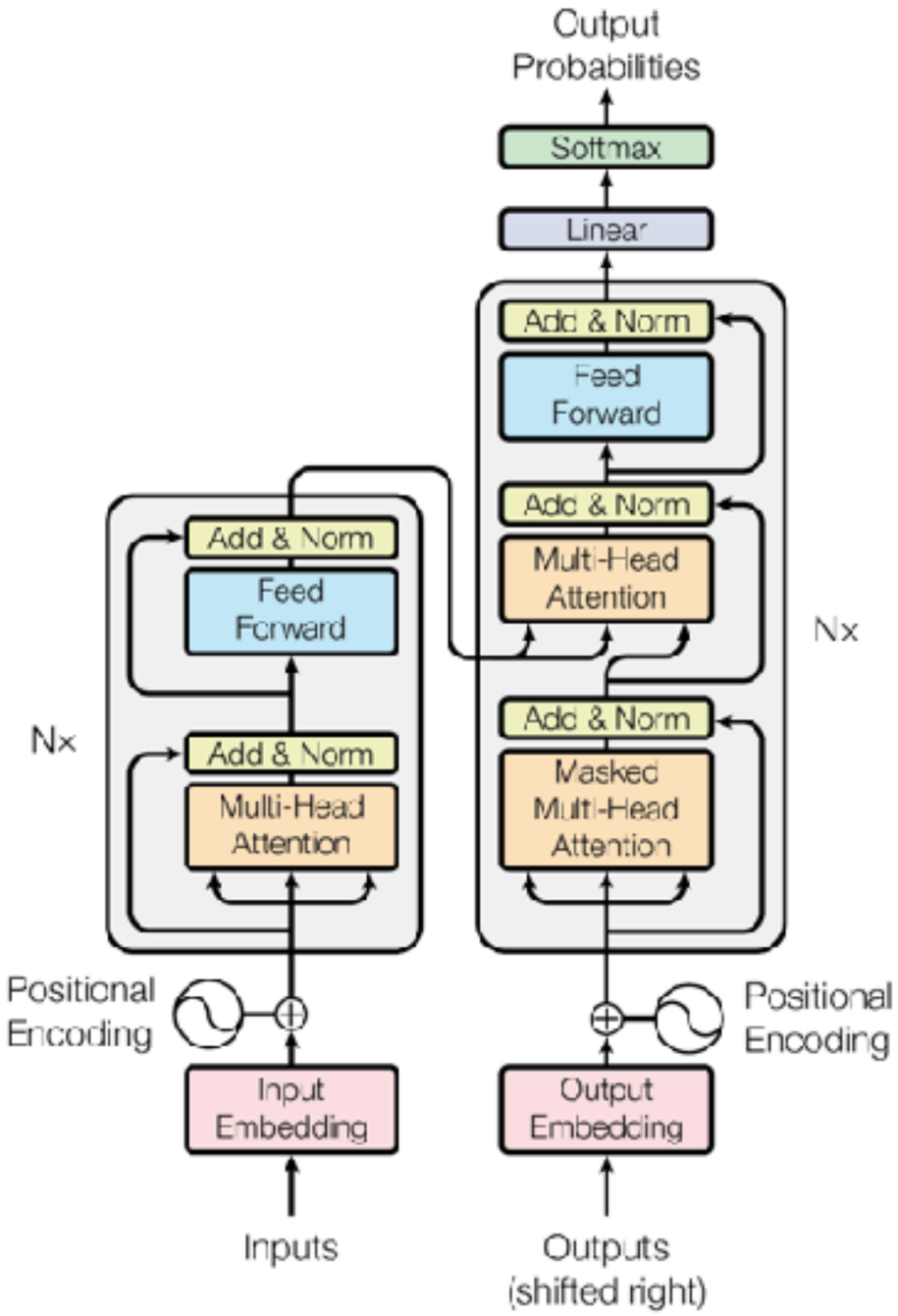
Can we remove RNN for sequential data ?

Parallel processing



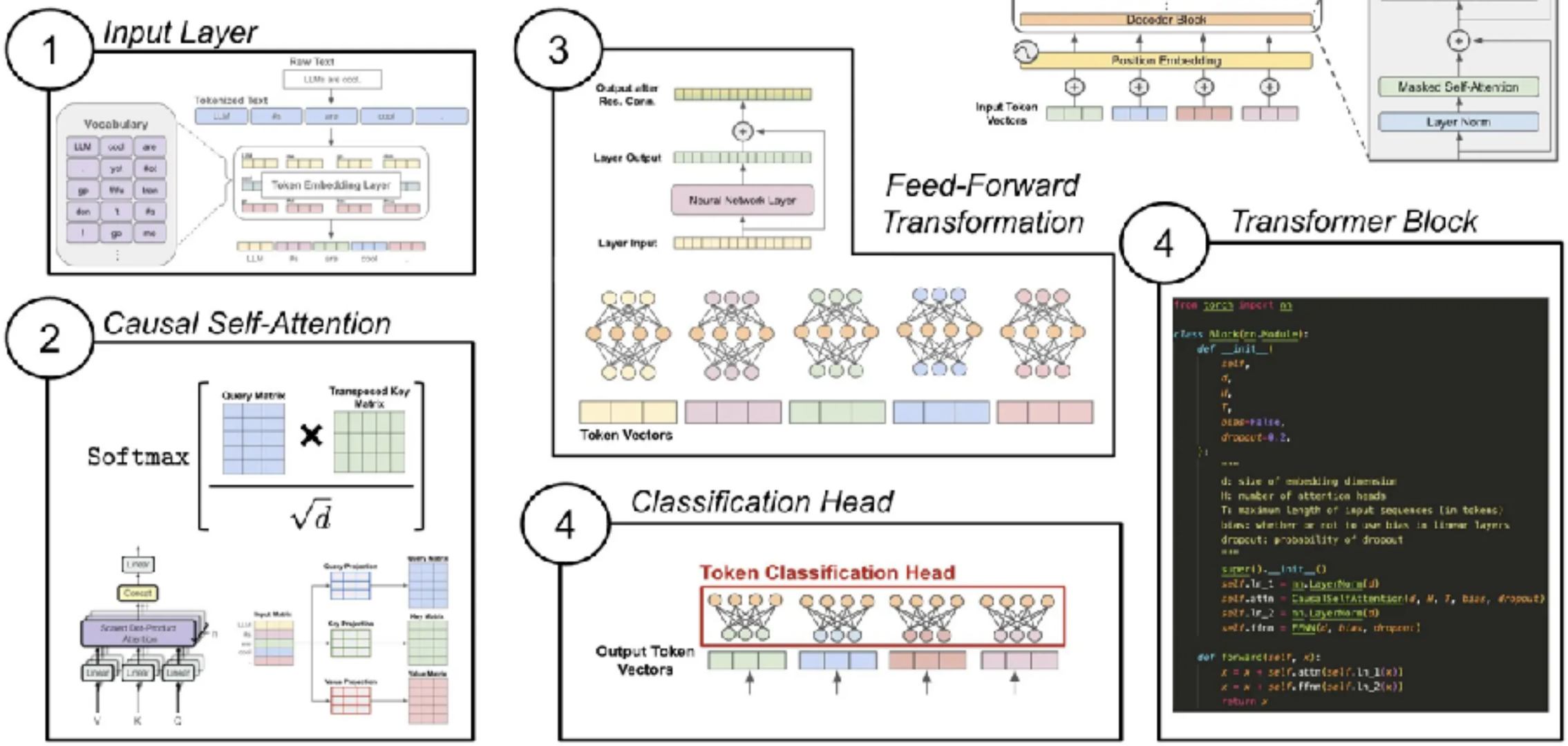
Start using Transformer apply attention mechanism

Attention is all you need



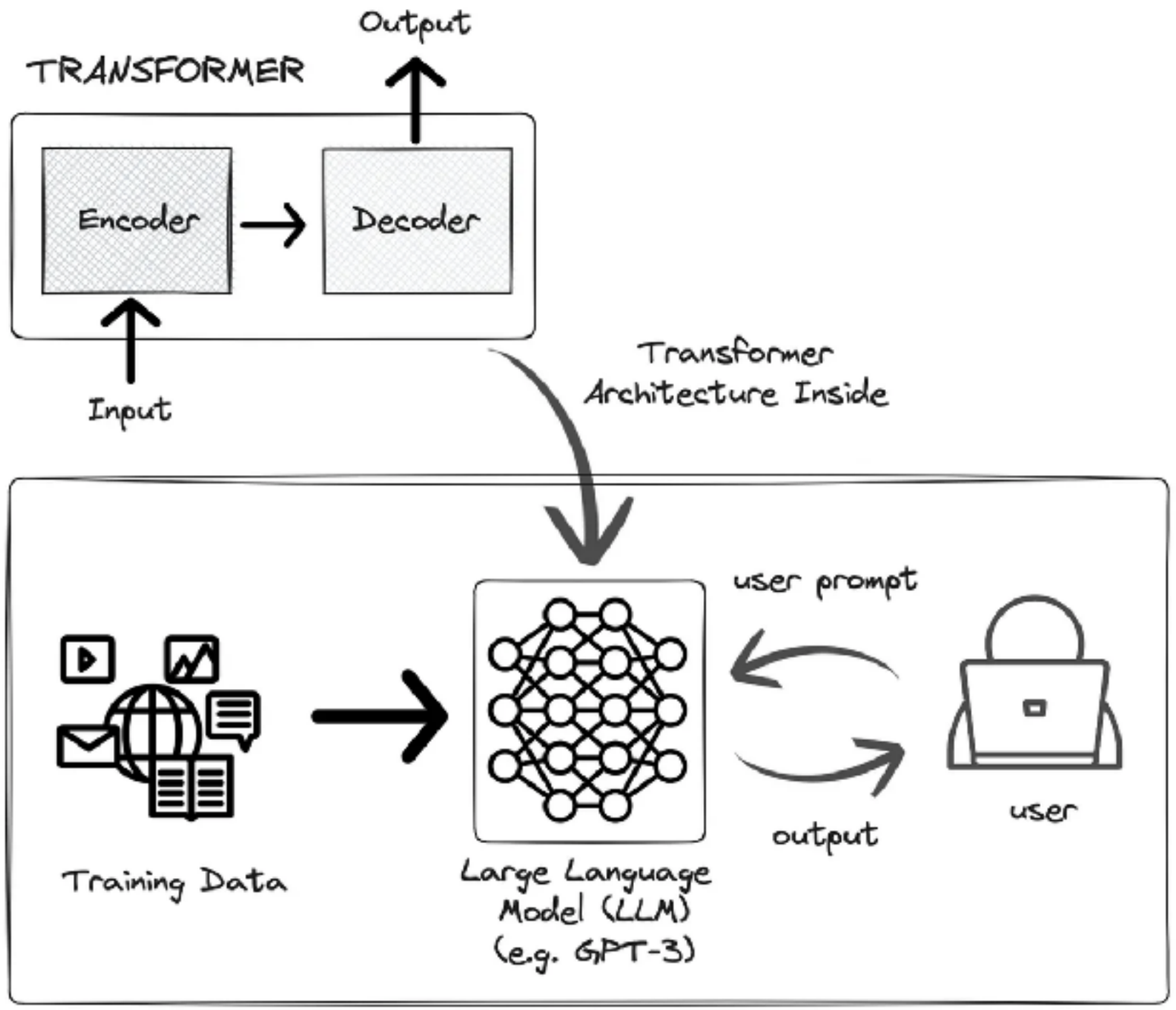
https://arxiv.org/abs/1706.03762

LLM components !!



https://stackoverflow.blog/2024/08/22/llms-evolve-quickly-their-underlying-architecture-not-so-much

Transformer inside



Transformer Models ?

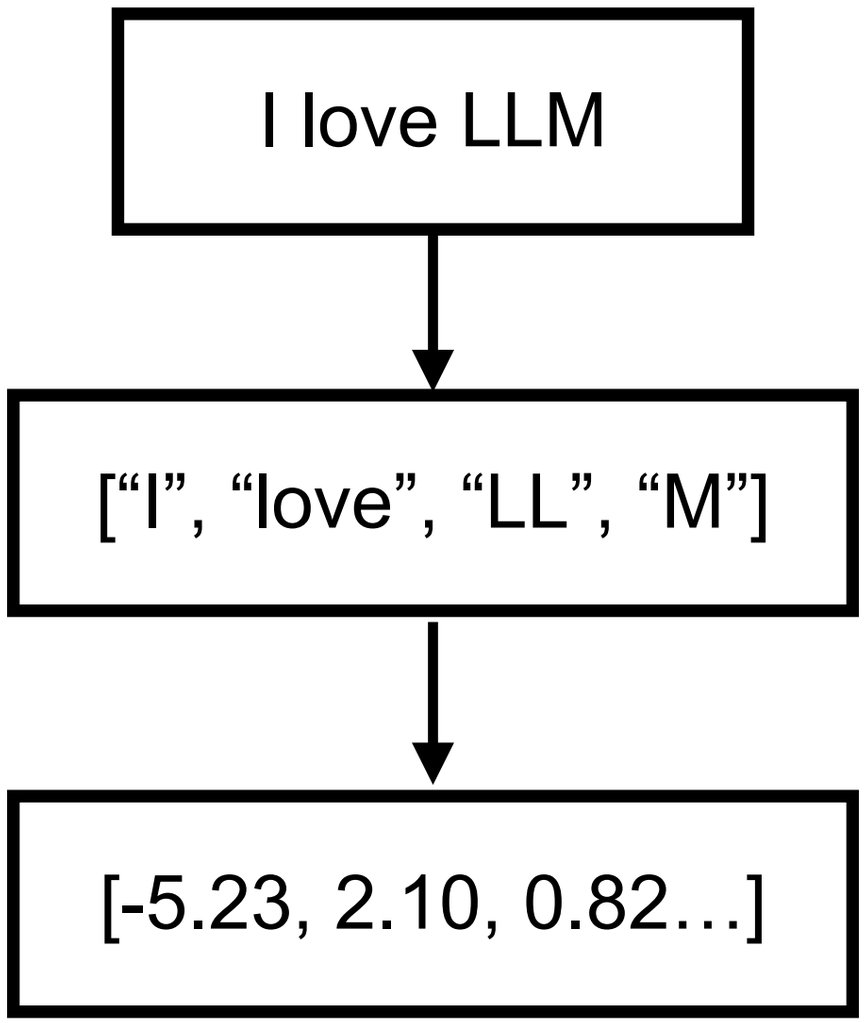
BERT

Bidirectional
Encoder
Representations from
Transformers

GPT

Generative
Pre-trained
Transformer

Transformer process

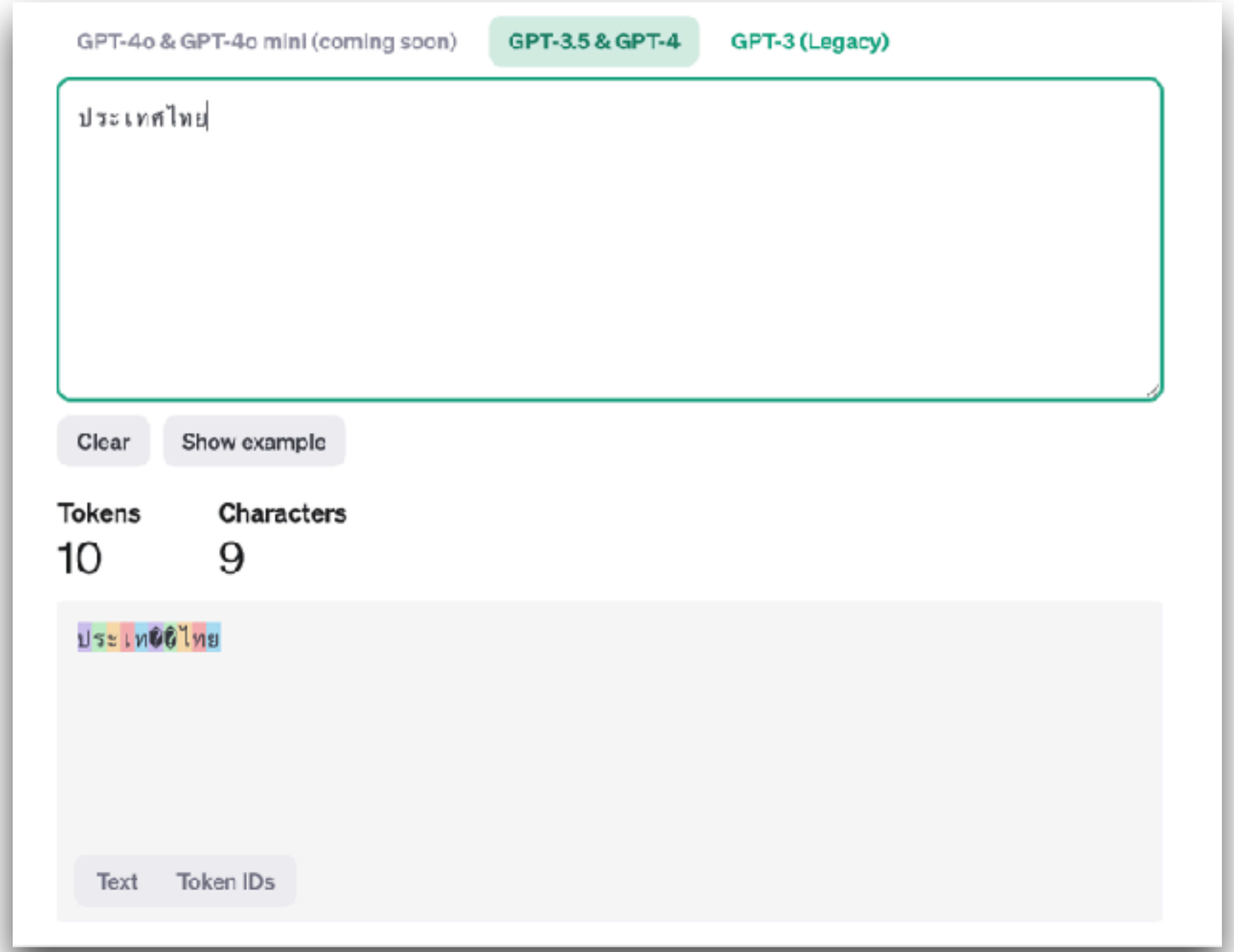


Sentence

Tokens

Embedding

OpenAI Tokenizer

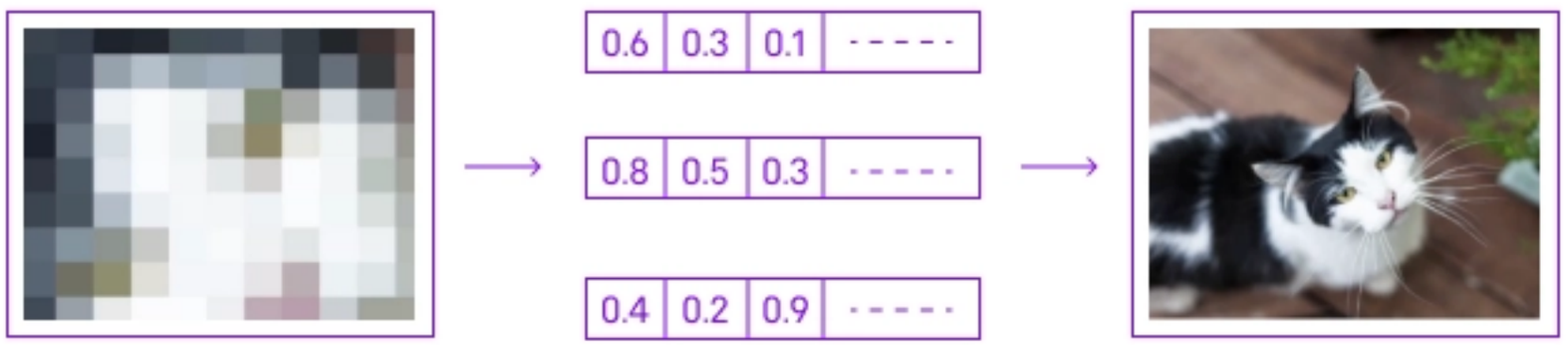


https://platform.openai.com/tokenizer

Vectorization and Embedding

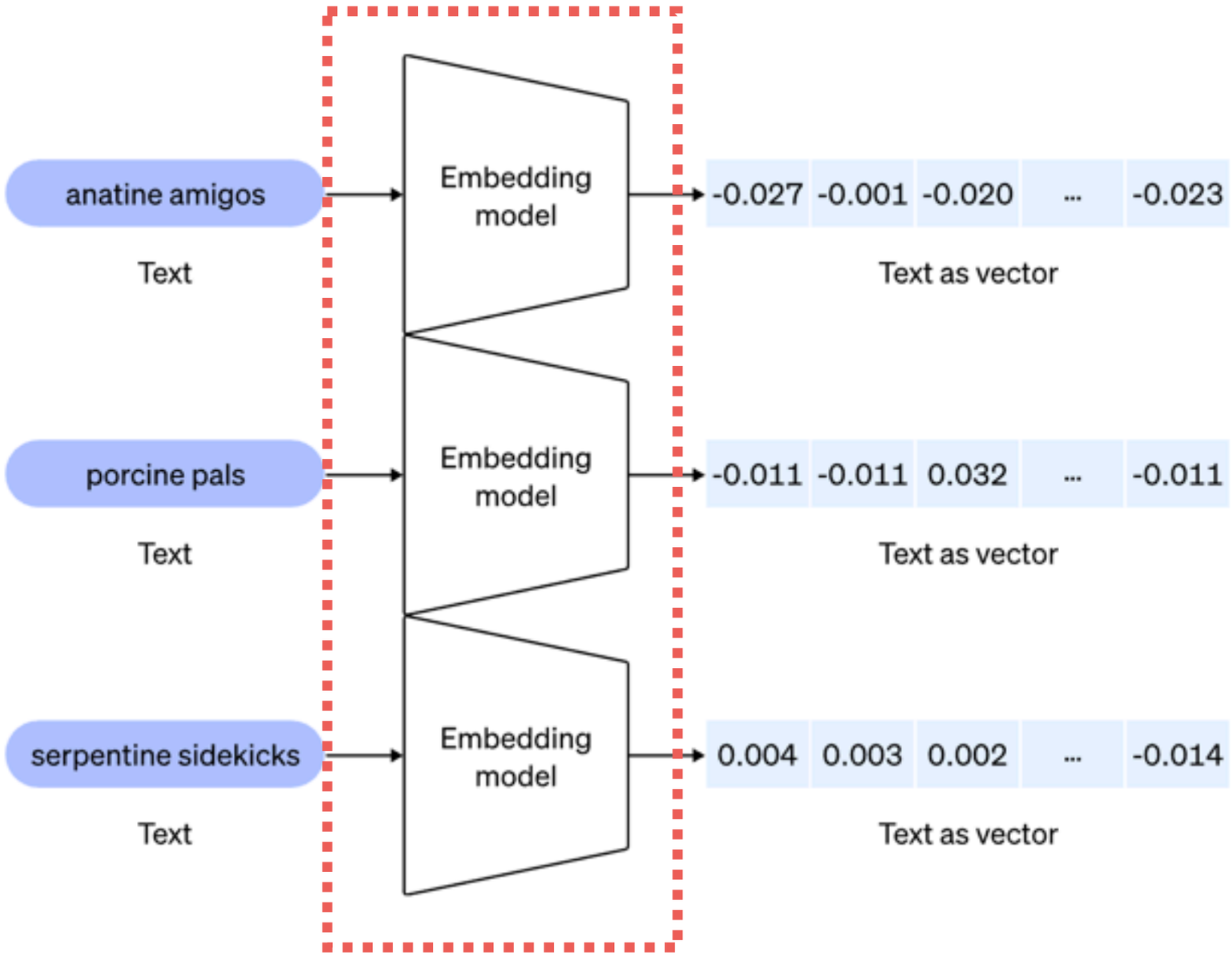
Embedding ?

Map items of **unstructured data** to high-dimensional real vectors



https://towardsdatascience.com/transformers-in-depth-part-1-introduction-to-transformer-models-in-5-minutes-ad25da6d3cca

Embedding models



https://openai.com/index/new-embedding-models-and-api-updates/

Embedding models

Rank (Bor…	Model	Zero-shot	Memory U…	Number of P…	Embedding D…	Max Tokens	Mean (T…	Mean (TaskT…	Bitext …	Classific
1	gemini-embedding-001	99%	Unknown	Unknown	3072	2048	68.37	59.59	79.28	71.82
2	Qwen3-Embedding-8B	99%	28866	7B	4096	32768	**70.58**	**61.69**	**80.89**	**74.00**
3	Qwen3-Embedding-4B	99%	15341	4B	2560	32768	69.45	60.86	79.36	72.33
4	Qwen3-Embedding-0.6B	99%	2272	595M	1024	32768	64.34	56.01	72.23	66.83
5	Linq-Embed-Mistral	99%	13563	7B	4096	32768	61.47	54.14	70.34	62.24
6	gte-Qwen2-7B-instruct	⚠ NA	29040	7B	3584	32768	62.51	55.93	73.92	61.55
7	multilingual-e5-large-instruct	99%	1068	560M	1024	514	63.22	55.08	80.13	64.94
8	SFR-Embedding-Mistral	95%	13563	7B	4096	32768	60.90	53.92	70.00	60.02
9	text-multilingual-embedding-002	99%	Unknown	Unknown	768	2048	62.16	54.25	70.73	64.64
9	GritLM-7B	99%	13813	7B	4096	4096	60.92	53.74	70.53	61.83
11	GritLM-8x7B	99%	89079	57B	4096	4096	60.49	53.31	68.17	61.55

Choose the right model for your use case !!

https://huggingface.co/spaces/mteb/leaderboard
https://modal.com/blog/mteb-leaderboard-article

Types of embedding

Word embedding

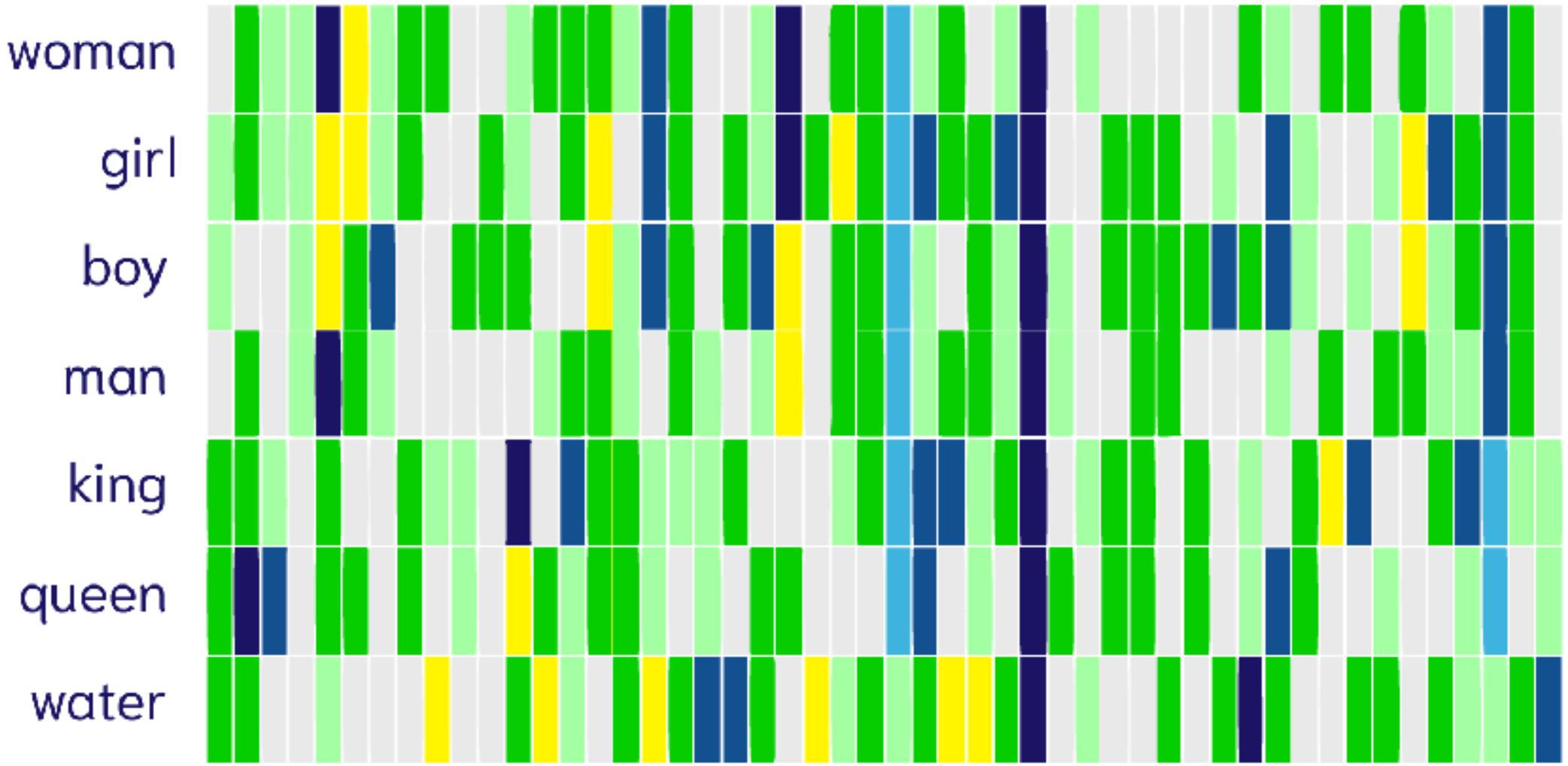
Sentence embedding

Document embedding

Multimodal embedding

https://www.analyticsvidhya.com/blog/2024/09/vector-embeddings-with-cohere-and-huggingface/

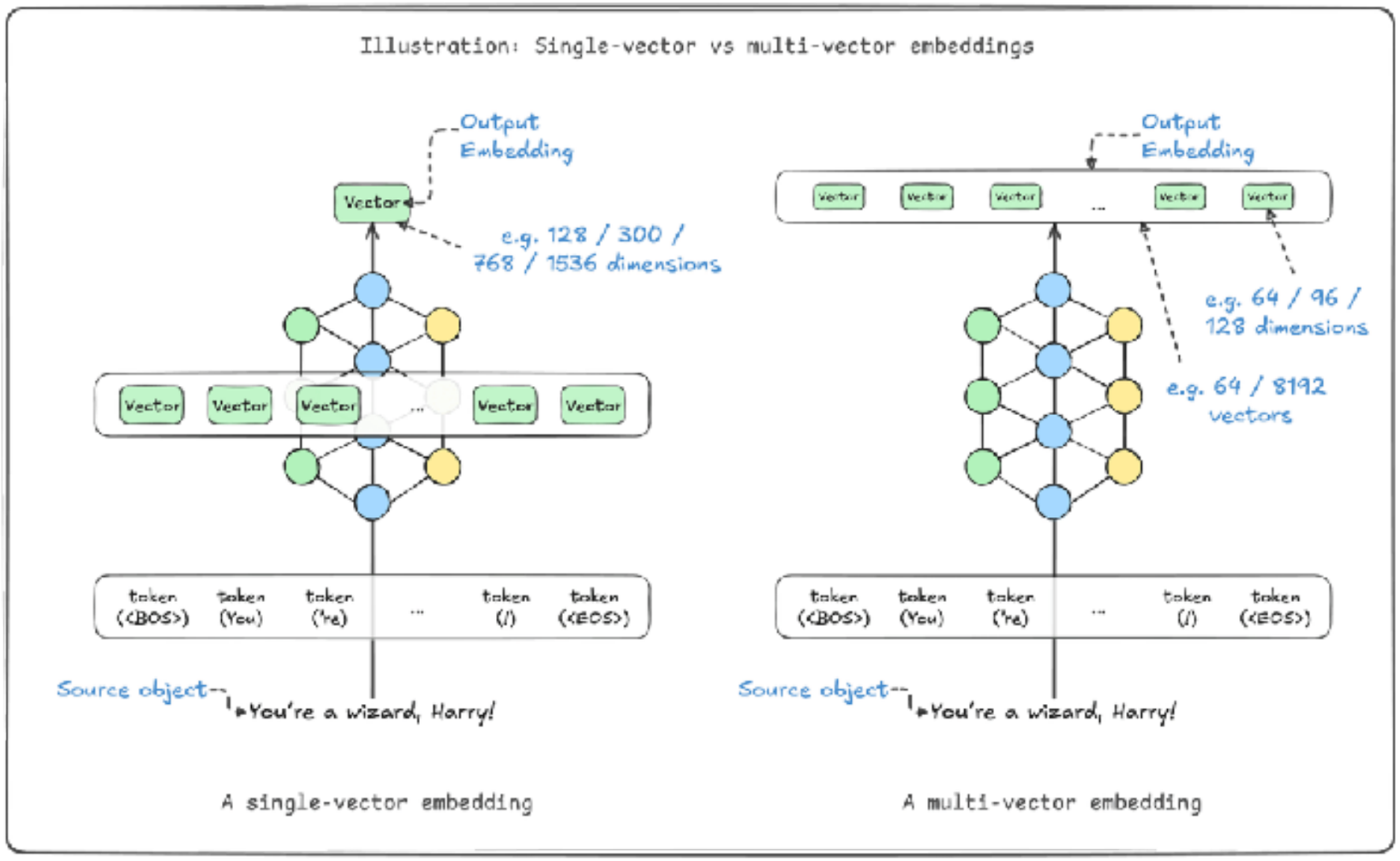
Word embedding with GloVe



https://en.wikipedia.org/wiki/GloVe

Single vs Multi-vector Embedding

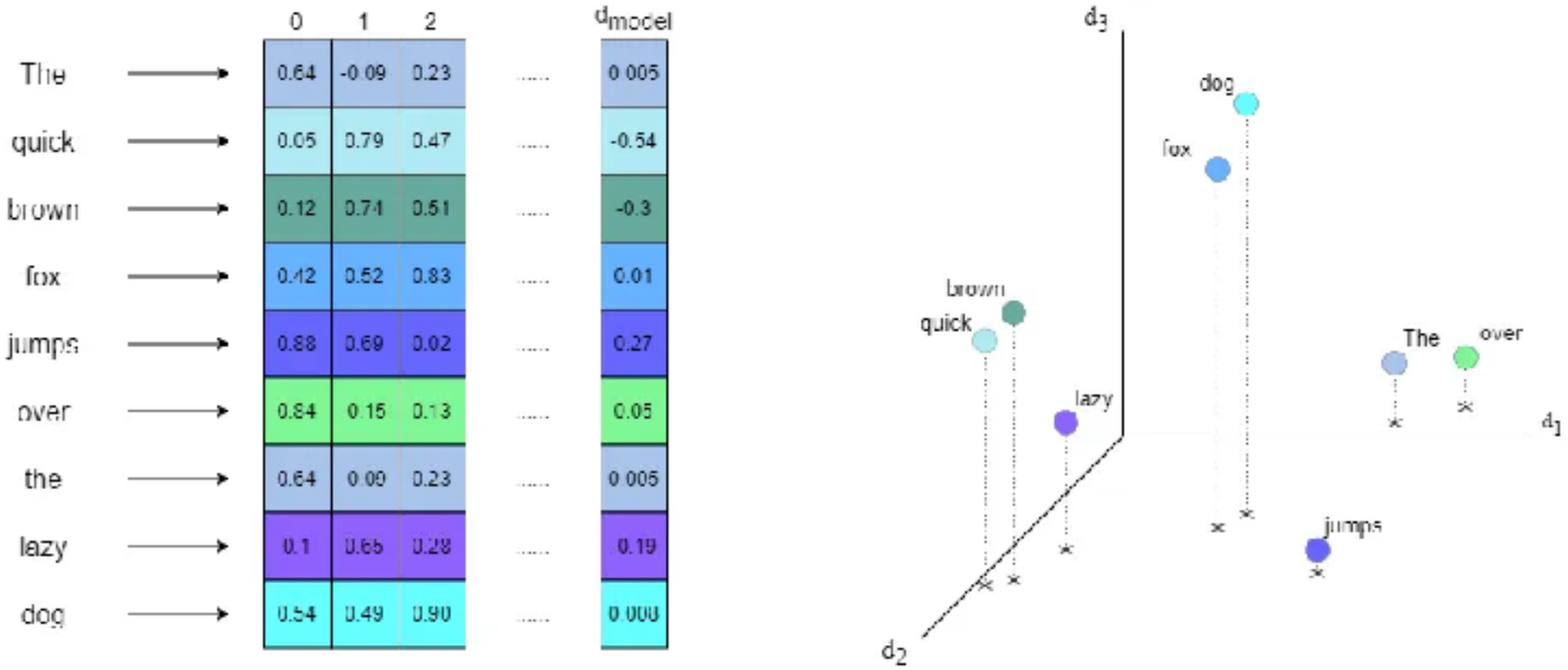
Improve retrieval and similar objects



https://docs.weaviate.io/weaviate/tutorials/multi-vector-embeddings

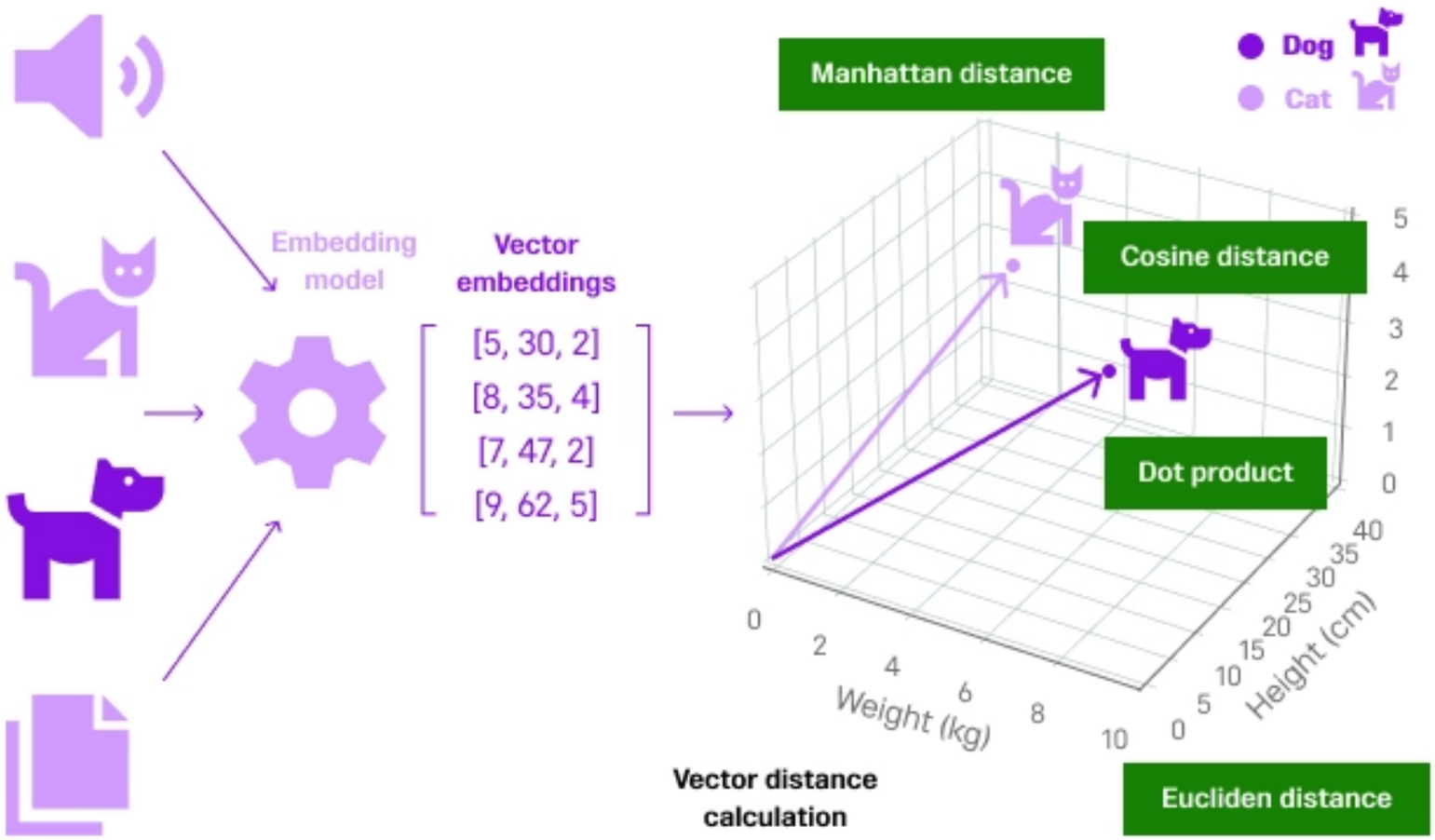
Embedding ?

Map items of **unstructured data** to high-dimensional real vectors



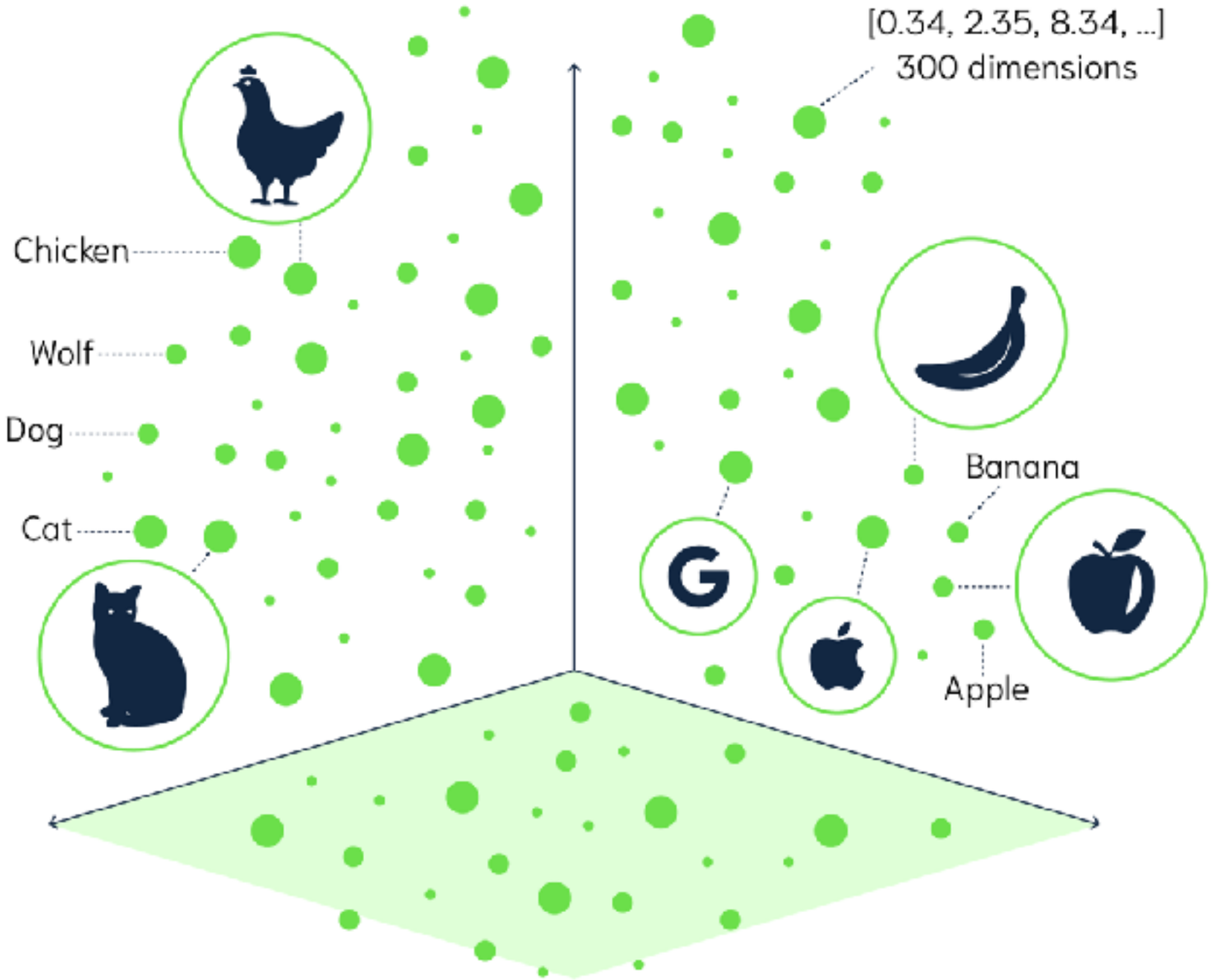
https://towardsdatascience.com/transformers-in-depth-part-1-introduction-to-transformer-models-in-5-minutes-ad25da6d3cca

Similarity search with Vecrtor

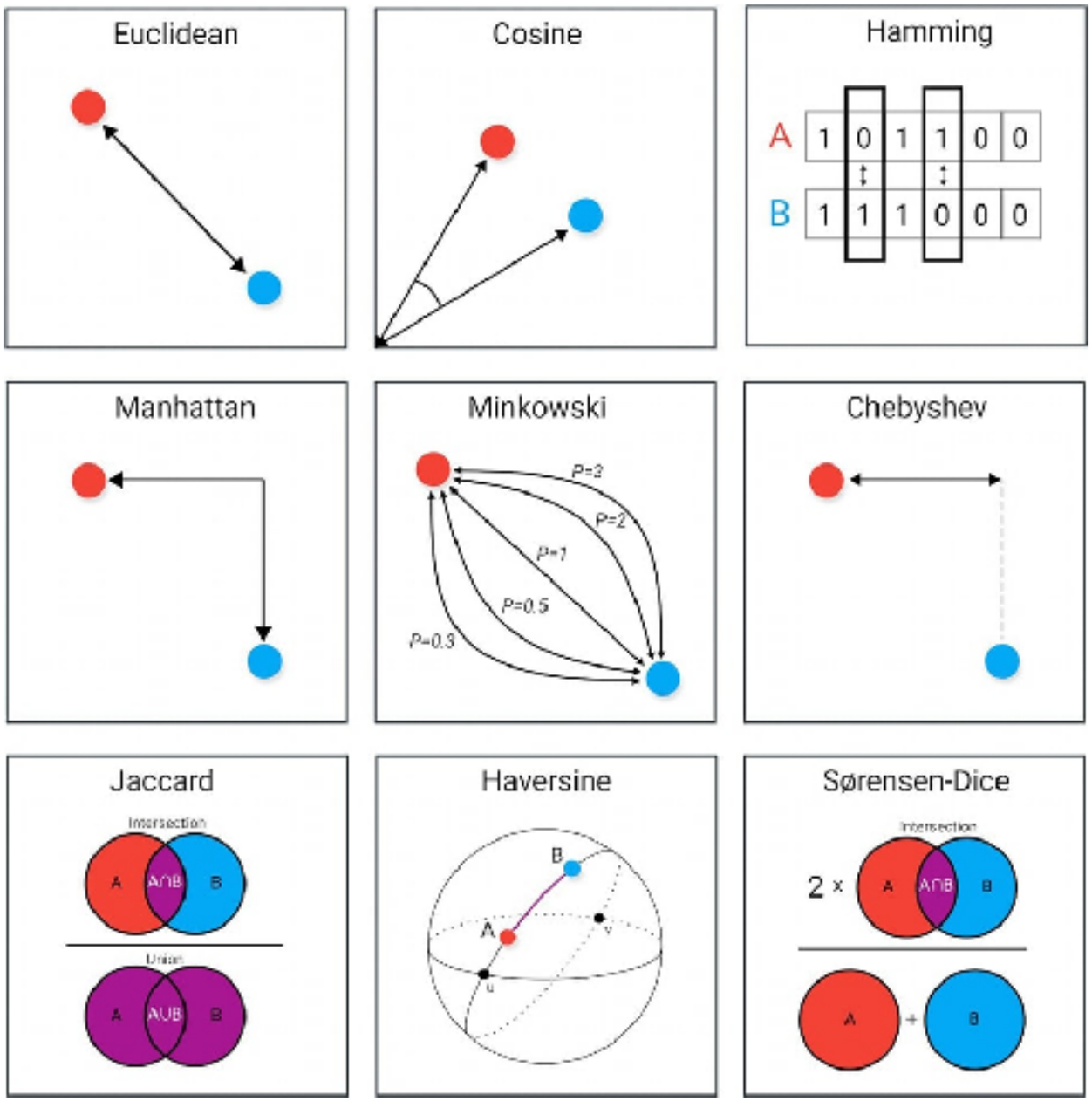


https://www.singlestore.com/blog/distance-metrics-in-machine-learning-simplfied/

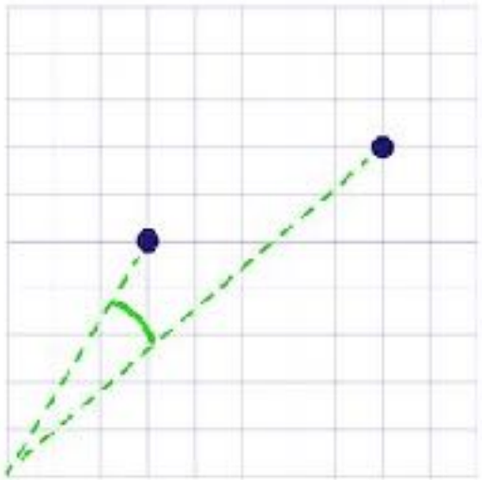
Visual of Vector space



Distance measure !!

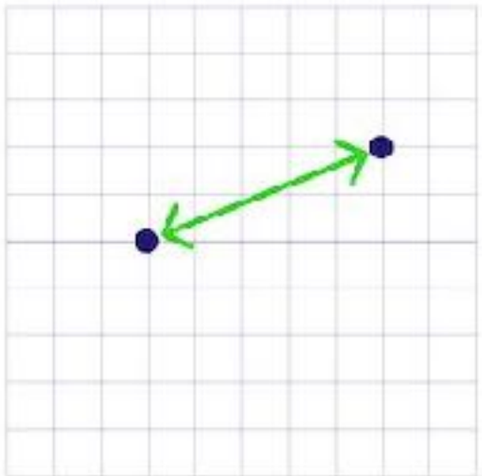


Distance Metrics in Vector Search



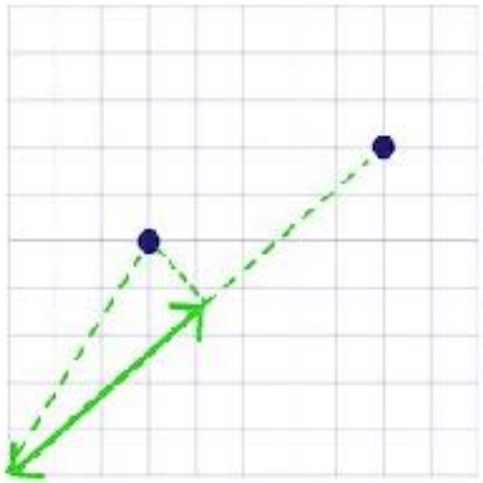
Cosine Distance

$$1 - \frac{A \cdot B}{||A|| \quad ||B||}$$



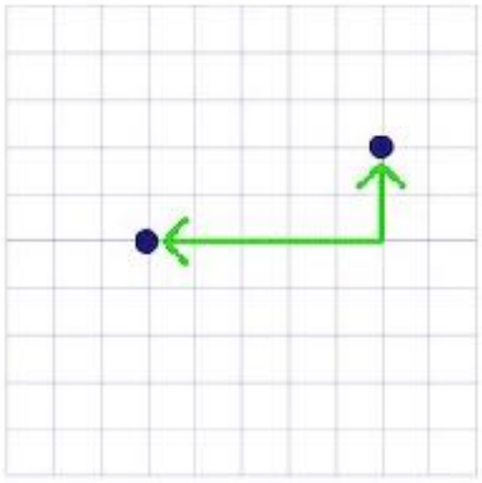
Squared Euclidean (L2 Squared)

$$\sum_{i=1}^{n} (x_i - y_i)^2$$



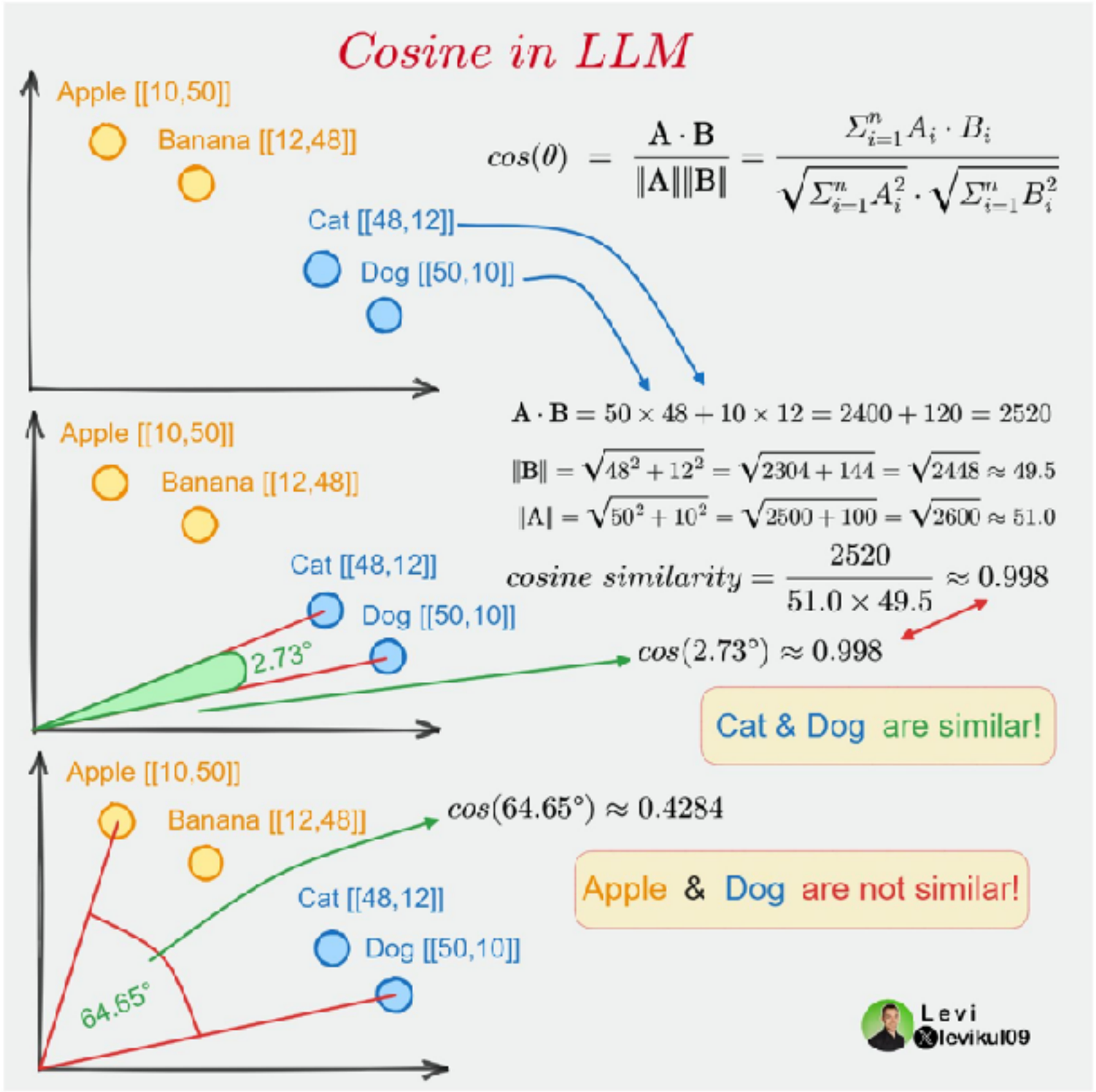
Dot Product

$$A \cdot B = \sum_{i=1}^{n} A_i B_i$$



Manhattan (L1)

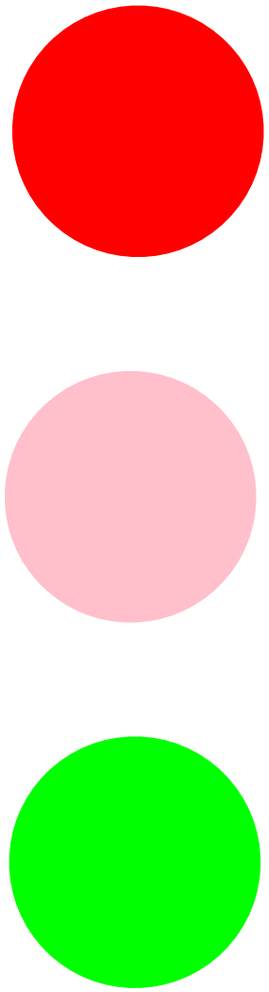
$$\sum_{i=1}^{n} |x_i - y_i|$$



https://x.com/levikul09/status/1771843190745948233/photo/1

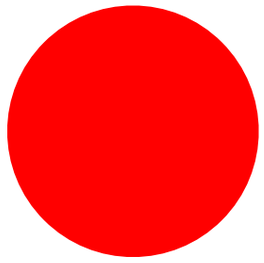
Example with Vector embedding ?

RGB ?



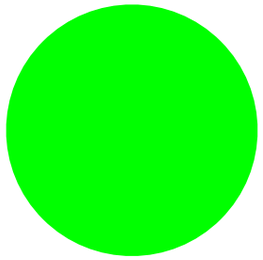
https://github.com/up1/workshop-ai-with-technical-team/tree/main/workshop/demo-rgb

RGB ?



[255, 0, 0]

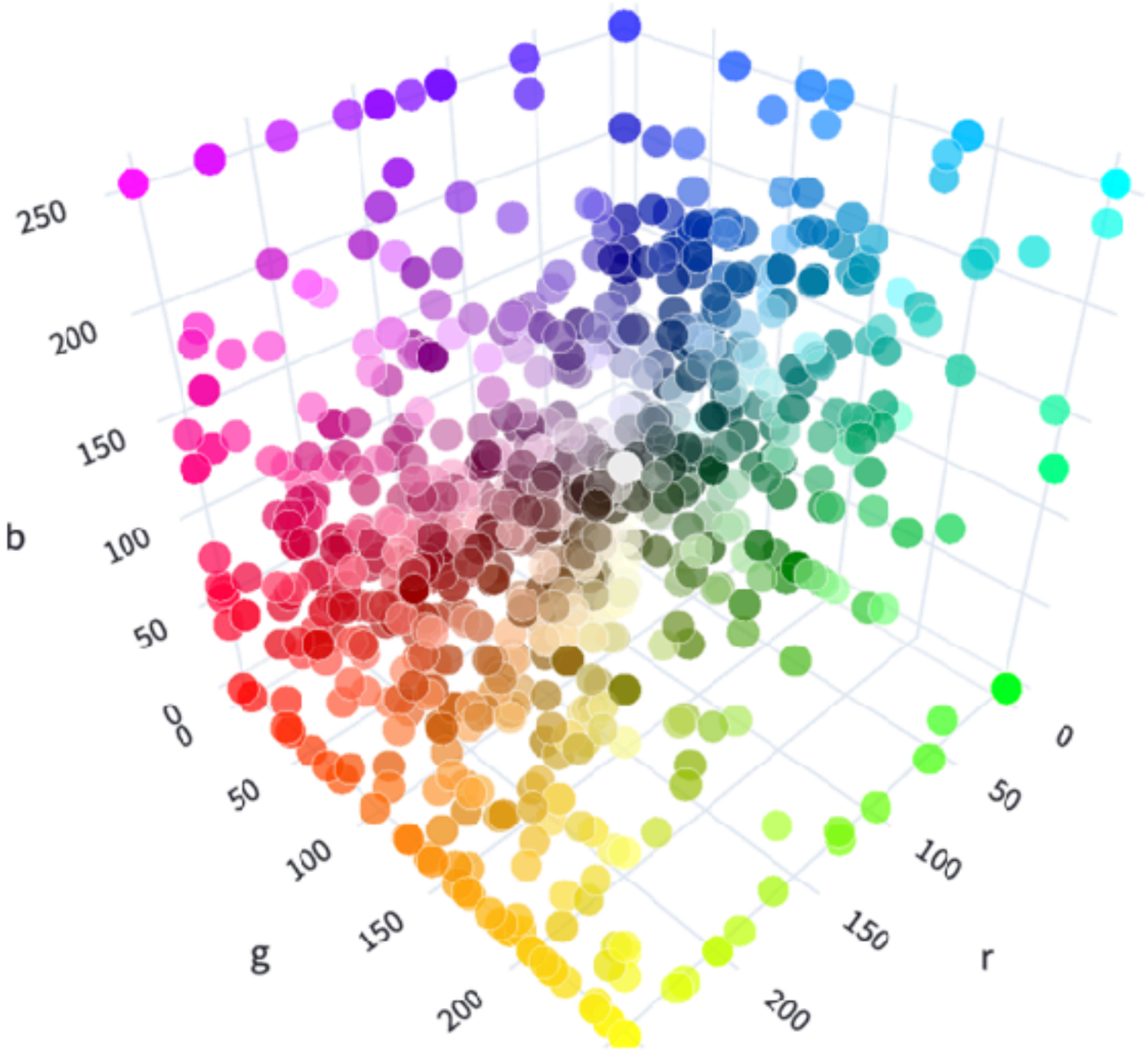
[255, 192, 203]



[0, 255, 0]

https://github.com/up1/workshop-ai-with-technical-team/tree/main/workshop/demo-rgb

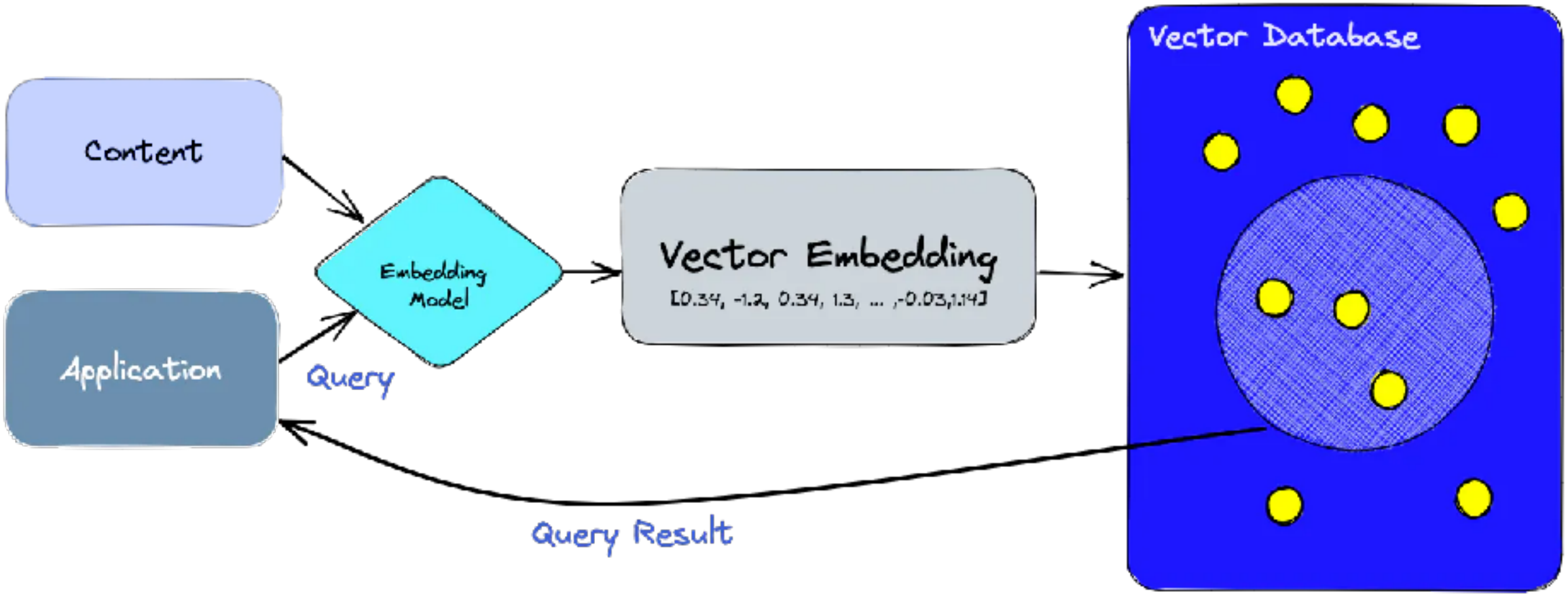
Visualize RGB



https://huggingface.co/spaces/jphwang/colorful_vectors

Store data in Vector Database

Store data in Vector Database



https://www.pinecone.io/learn/vector-database/

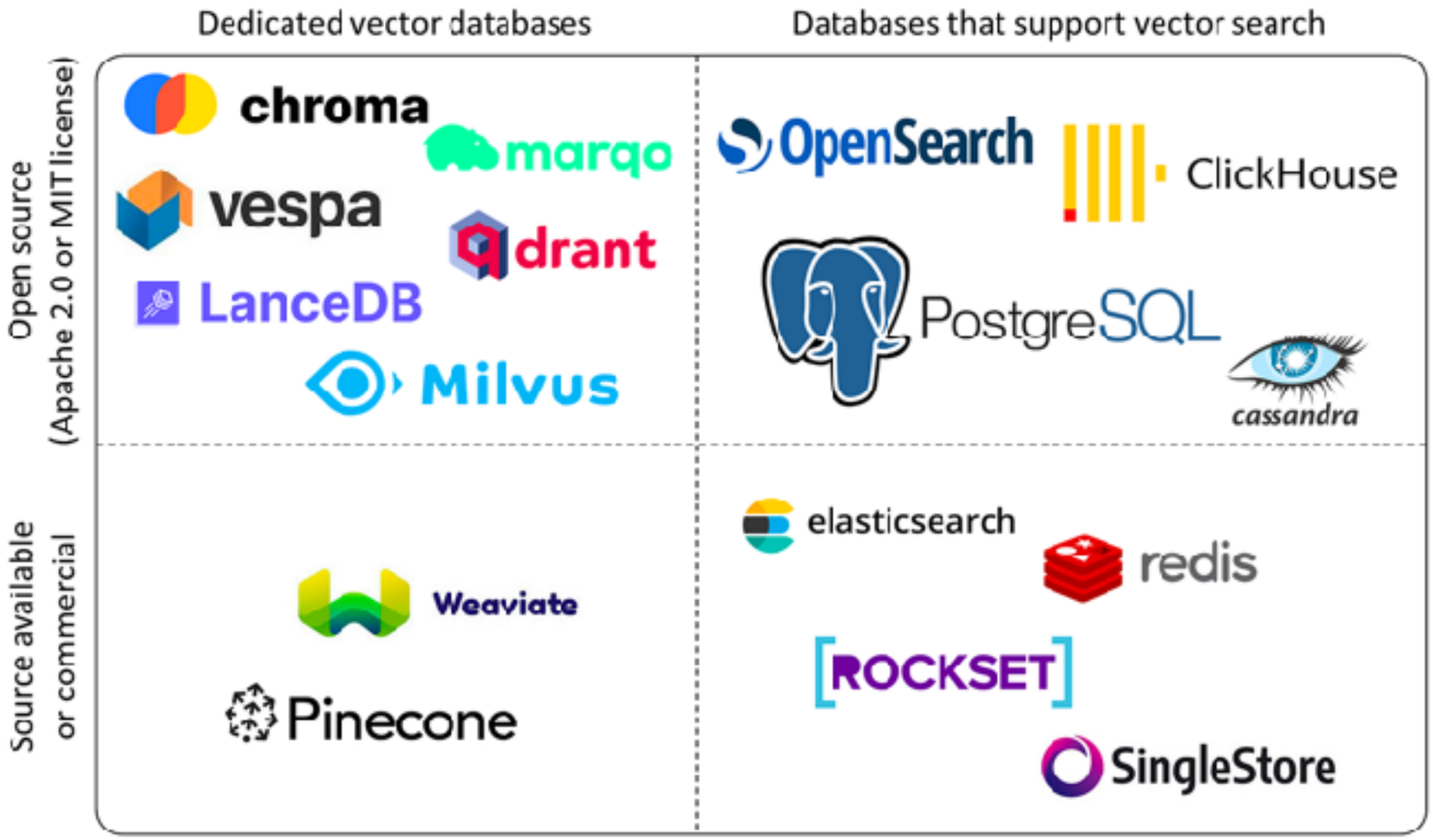
Vector Database ?

Index and Store vector embedding
Fast retrieval and similar search

Keyword search	Similarity search
Full-text search	Semantic search

Vector Database ?

Map items of unstructured data to high-dimensional real **vectors**



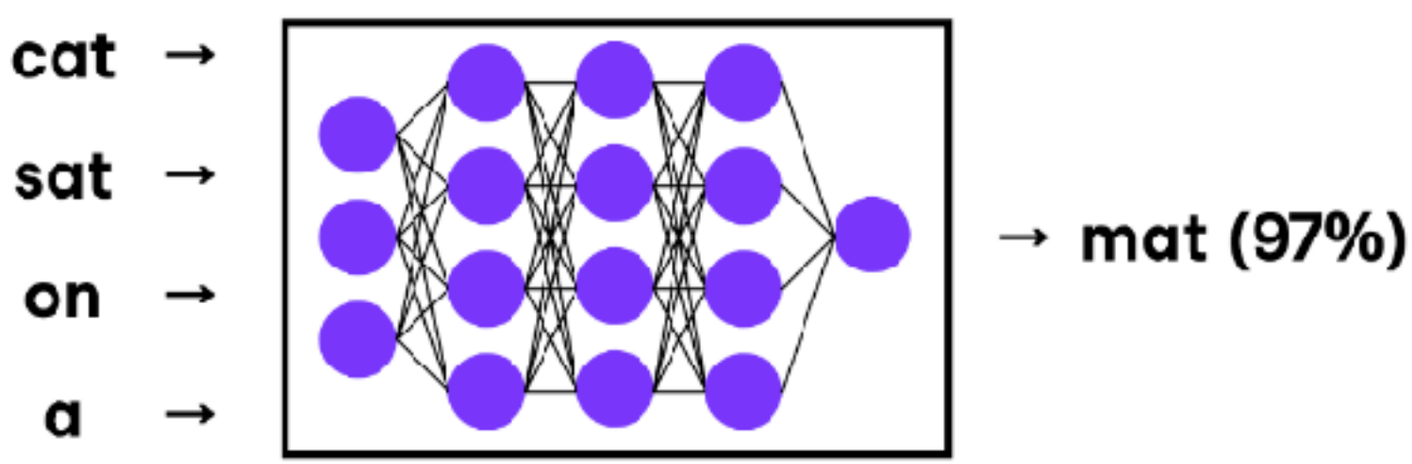
https://towardsdatascience.com/transformers-in-depth-part-1-introduction-to-transformer-models-in-5-minutes-ad25da6d3cca

Let’s go !!

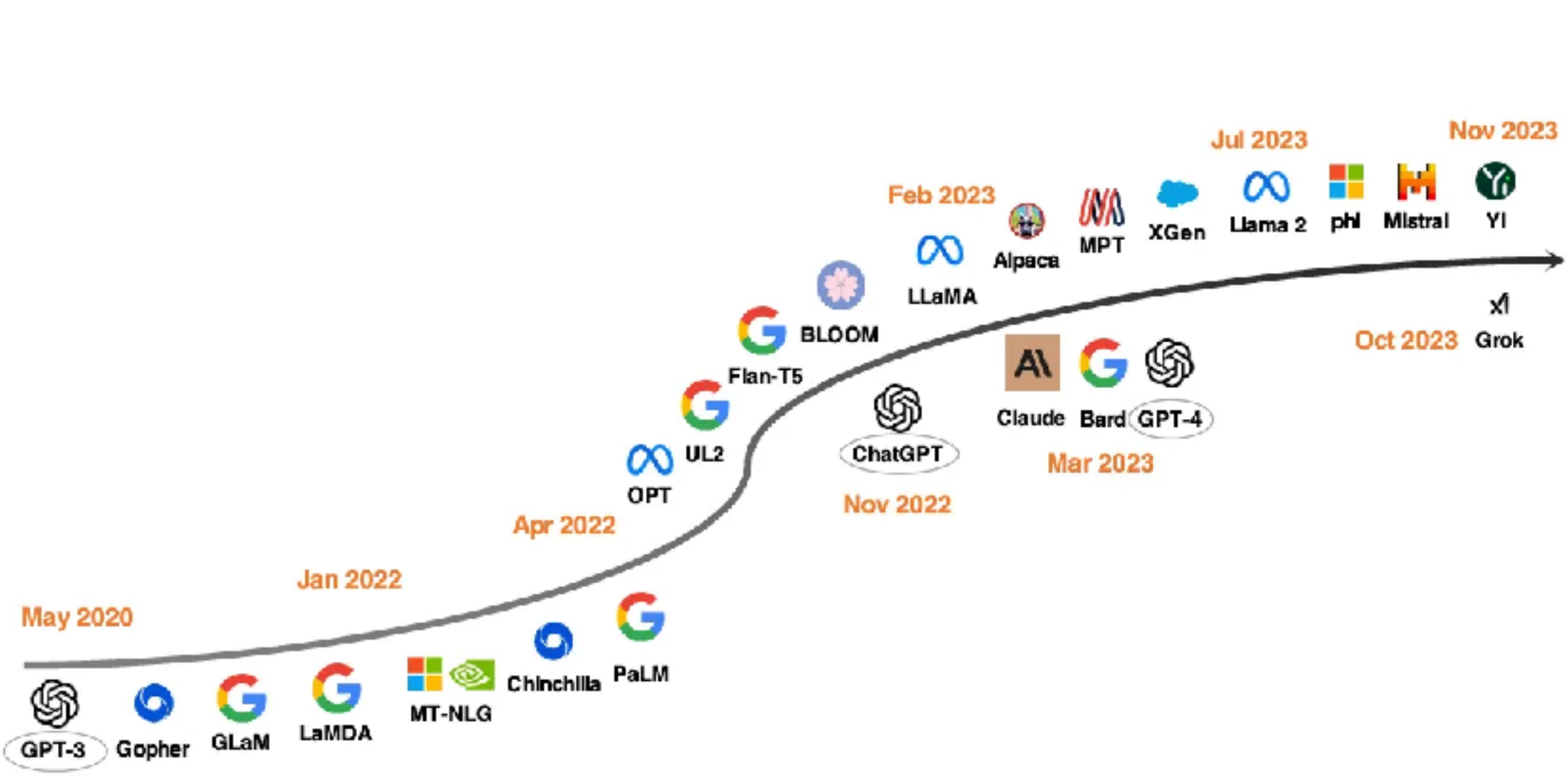
Large Language Model (LLM)

Neural network

Predicts the next word in a sequence



LLM Development timeline



2025
GPT 5
Gemini 2.5
DeepSeek
Llama 4
Mistral

Figure 3: LLM development timeline. The models below the arrow are closed-source while those above the arrow are open-source.

https://arxiv.org/abs/2311.16989

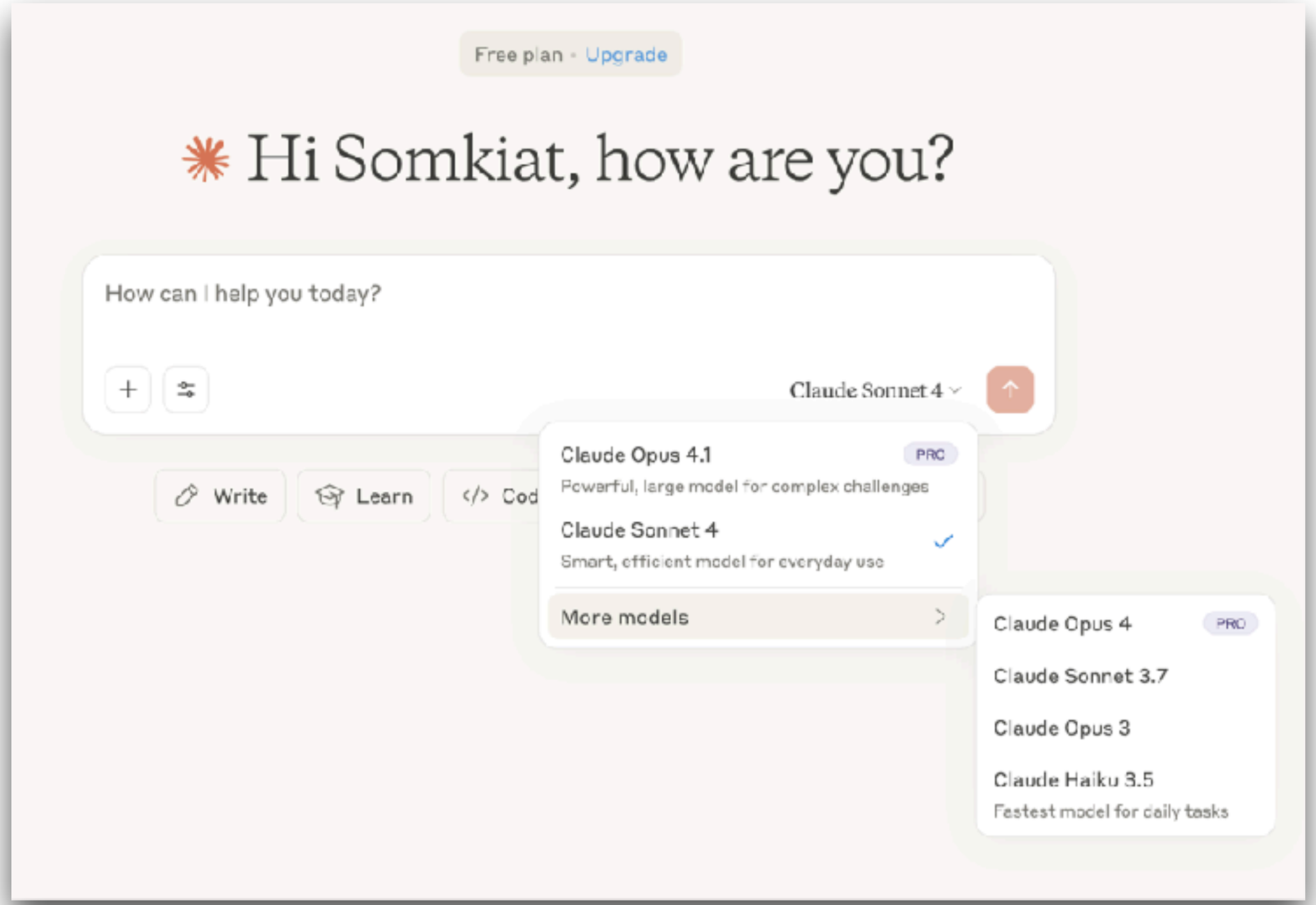
LLMs in industry

Model name	Company
GPT 4	OpenAI
Gemini	Google AI
BLOOM	NVIDIA AI
Llama	Facebook/Meta
Claude Sonnet, Haiku, Opus	Anthropic
Phi	Microsoft
DeepSeek	DeepSeek

Module 2

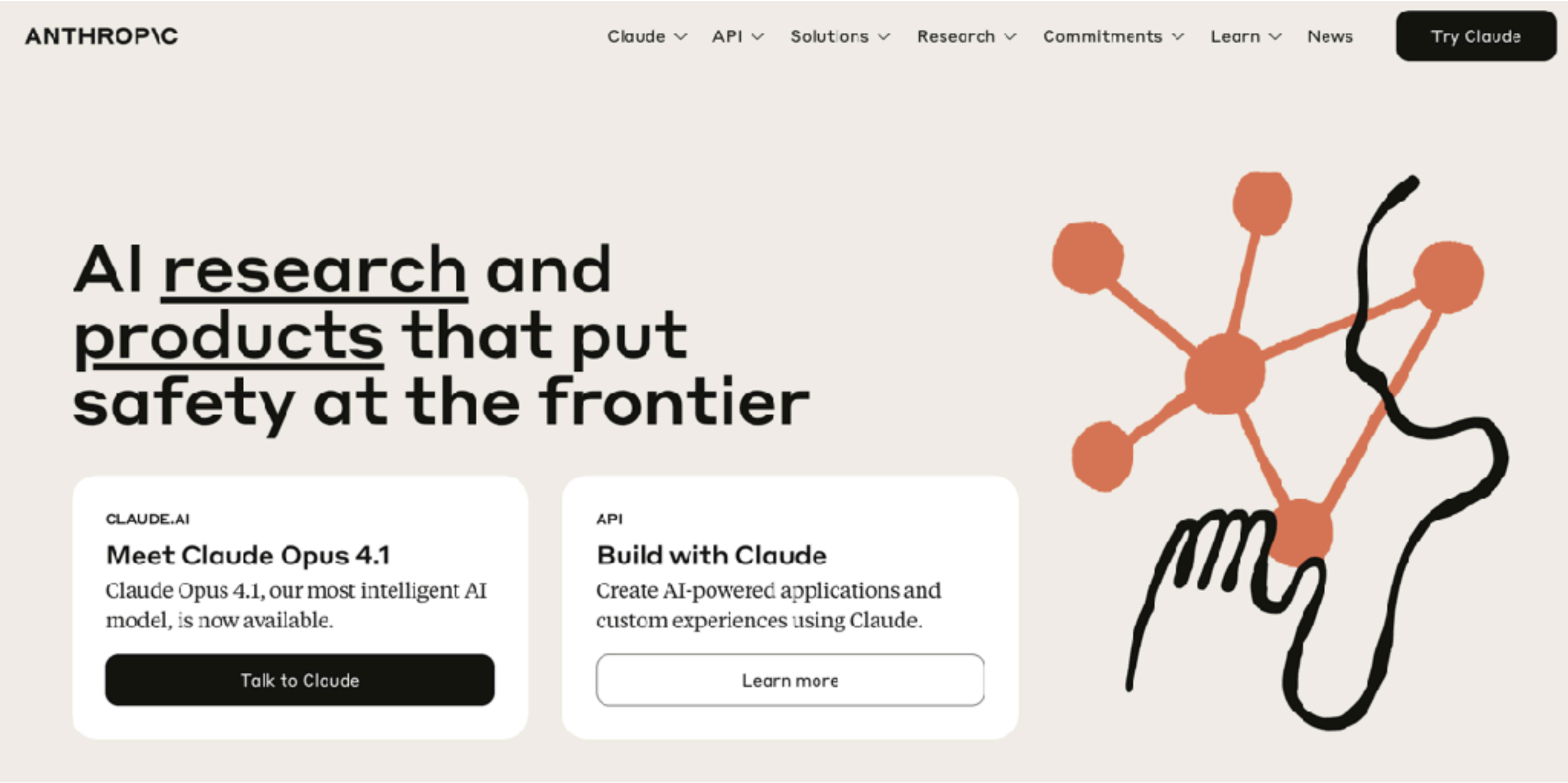
Introduction to Claude AI

Claude AI



https://claude.ai/

Antropic



https://www.anthropic.com/

Models ?

Sonnet	Opus	Haiku
Balance speed and Intelligent Analysis	Reasoning and creative Complex and long task	Fast Simple tasks

https://docs.anthropic.com/en/docs/about-claude/models/overview

Model names

Model names

Model	Anthropic API	AWS Bedrock	GCP Vertex AI
Claude Opus 4.1	`claude-opus-4-1-20250805`	`anthropic.claude-opus-4-1-20250805-v1:0`	`claude-opus-4-1@20250805`
Claude Opus 4	`claude-opus-4-20250514`	`anthropic.claude-opus-4-20250514-v1:0`	`claude-opus-4@20250514`
Claude Sonnet 4	`claude-sonnet-4-20250514`	`anthropic.claude-sonnet-4-20250514-v1:0`	`claude-sonnet-4@20250514`
Claude Sonnet 3.7	`claude-3-7-sonnet-20250219` (`claude-3-7-sonnet-latest`)	`anthropic.claude-3-7-sonnet-20250219-v1:0`	`claude-3-7-sonnet@20250219`
Claude Haiku 3.5	`claude-3-5-haiku-20241022` (`claude-3-5-haiku-latest`)	`anthropic.claude-3-5-haiku-20241022-v1:0`	`claude-3-5-haiku@20241022`
Claude Haiku 3	`claude-3-haiku-20240307`	`anthropic.claude-3-haiku-20240307-v1:0`	`claude-3-haiku@20240307`

https://docs.anthropic.com/en/docs/about-claude/models/overview

Comparison models ?

Model name	Capabilities	Limitation	Use cases
Claude Haiku	Fast, low latency short task	Reasoning depth Complex task Creative	Real-time chatbot Quick customer support
Claude Sonnet	Balance between speed and intelligent	Slow than Haiku Less powerful than Opus	Business report Code assistance Research and writing task
Claude Opus	Most powerful Reasoning and creative Complex problem solving	Slow, more response time Expensive	Deep research Legal, medical analysis Complex sw development

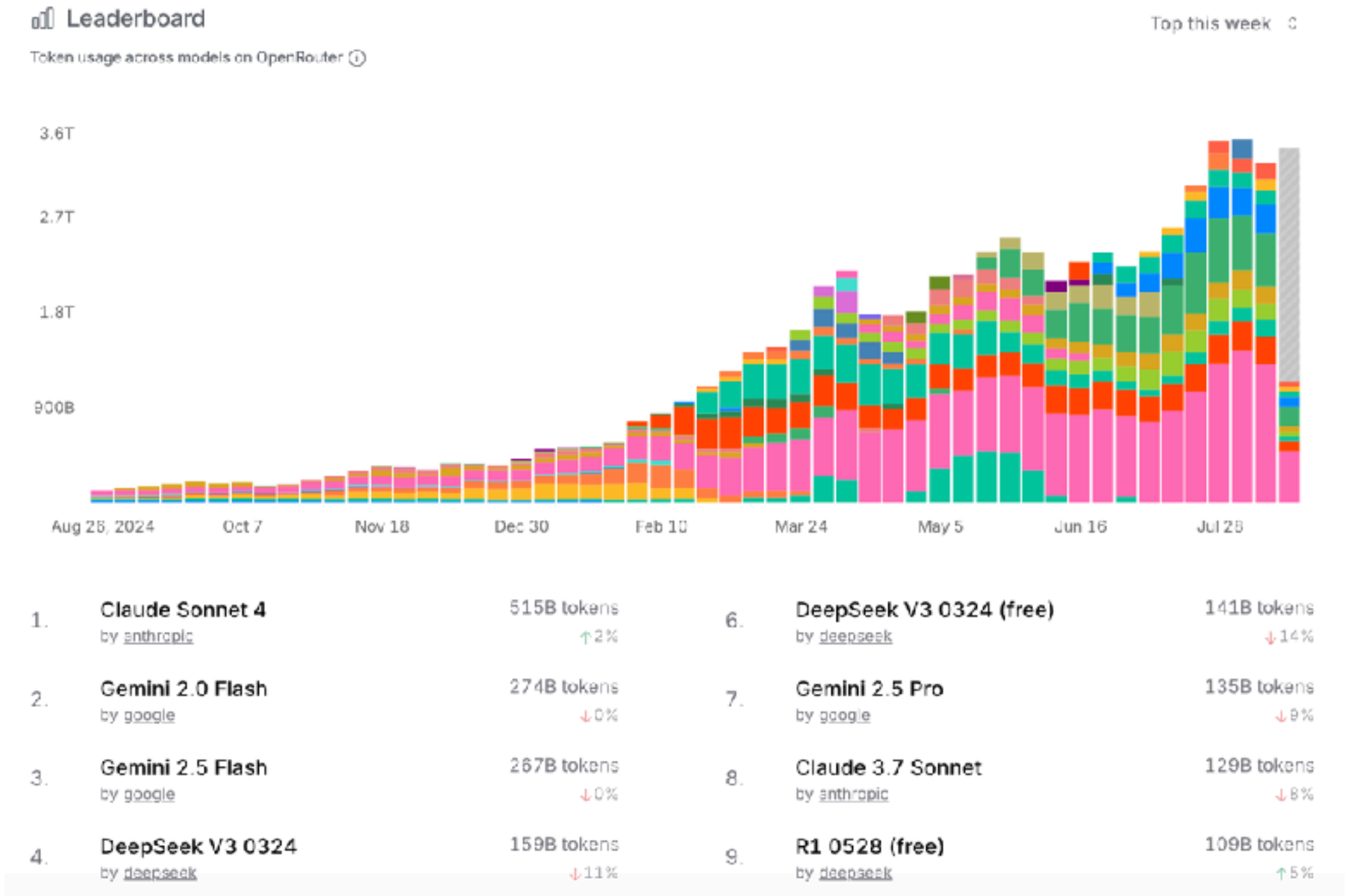
https://docs.anthropic.com/en/docs/about-claude/models/overview#model-comparison-table

Comparison models ?

	Claude Opus 4.1	Claude Opus 4	Claude Sonnet 4	OpenAI o3	Gemini 2.5 Pro
Agentic coding *SWE-bench Verified* [1]	74.5%	72.5%	72.7%	69.1%	67.2%
Agentic terminal coding *Terminal-Bench* [2]	43.3%	39.2%	35.5%	30.2%	25.3%
Graduate level reasoning *GPQA Diamond*	80.9%	79.6%	75.4%	83.3%	86.4%
Agentic tool use *TAU-bench*	Retail 82.4% Airline 56.0%	Retail 81.4% Airline 59.6%	Retail 80.5% Airline 60.0%	Retail 70.4% Airline 52.0%	— —
Multilingual Q&A *MMMLU* [3]	89.5%	88.8%	86.5%	88.8%	—
Visual reasoning *MMMU (validation)*	77.1%	76.5%	74.4%	82.9%	82%
High school math competition *AIME 2025* [4]	78.0%	75.5%	70.5%	88.9%	88%

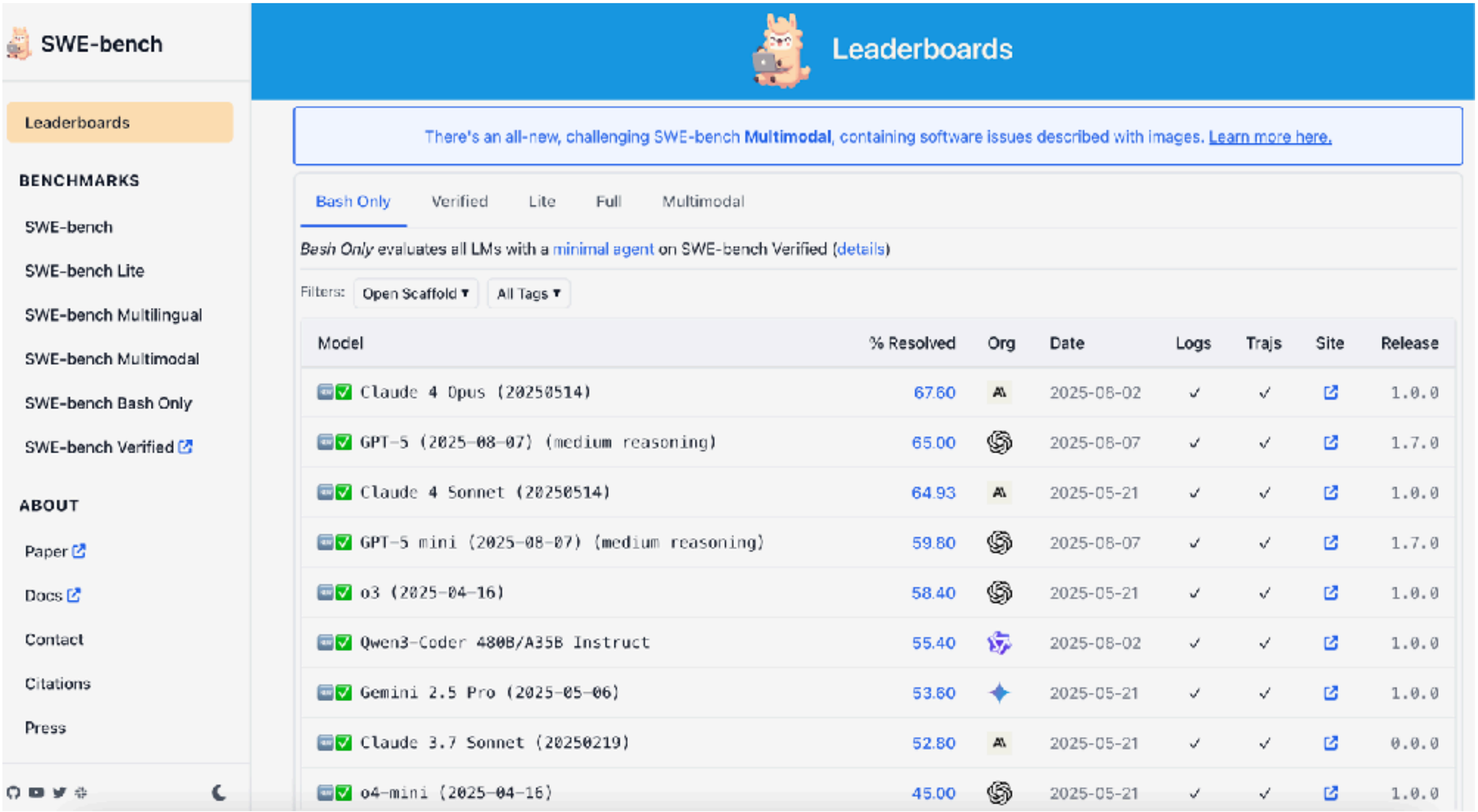
https://www.anthropic.com/claude/opus

Token usage from OpenRouter



https://openrouter.ai/rankings

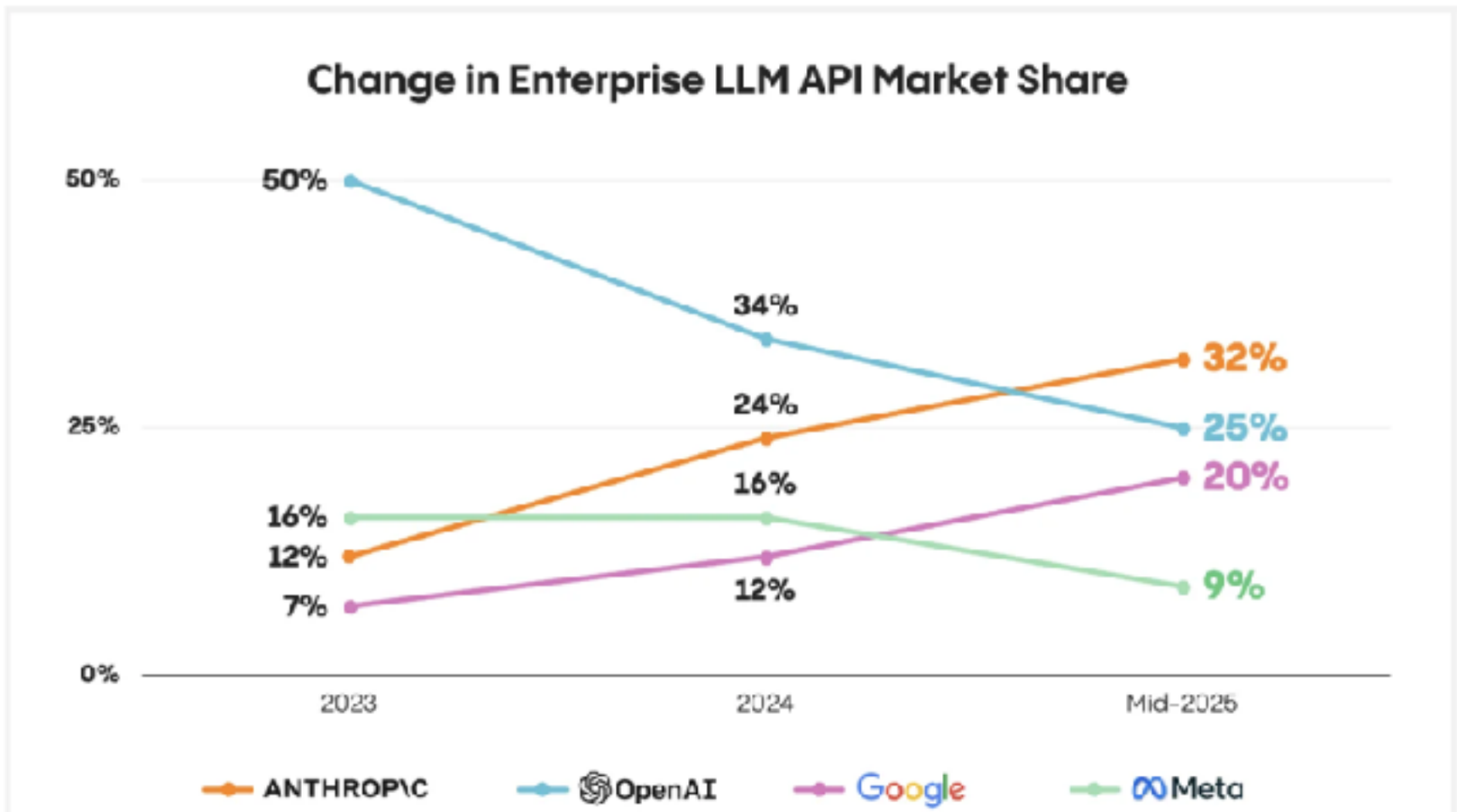
SWE-bench

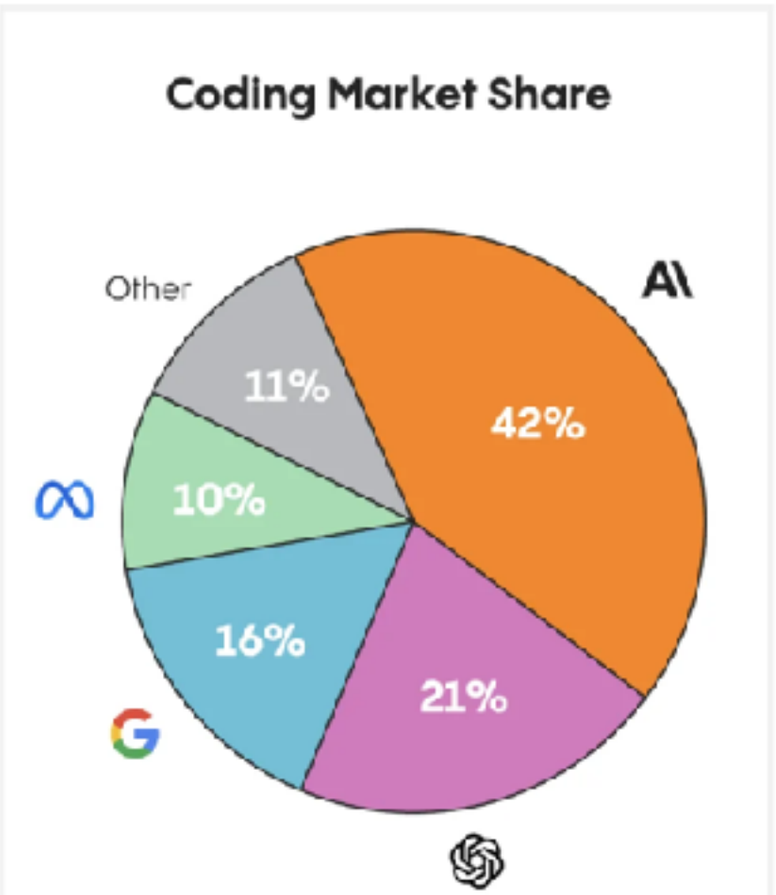


https://www.swebench.com/

Market Share !!

Enterprise LLM API Market Share by Usage





https://menlovc.com/perspective/2025-mid-year-llm-market-update/

Anthropic Products ?

Chat-based	API-based	Claude Code
Web Mobile app	Integrate with external tools	CLI tools Code Agent

MCP
Model Context Protocol

https://www.anthropic.com/

สีเหลือง

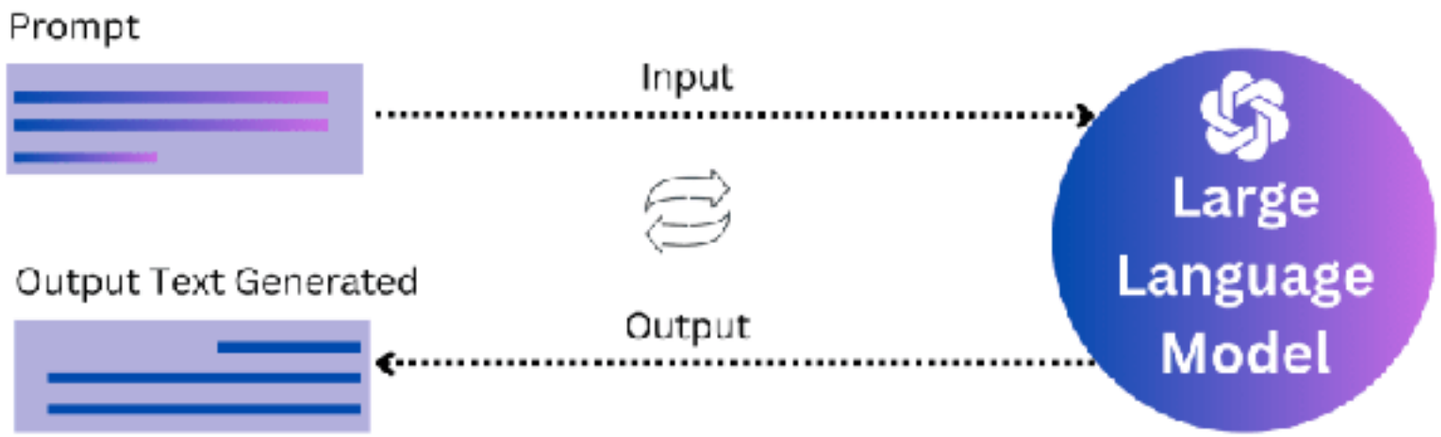
มีด

Prompt Engineering

https://docs.anthropic.com/en/docs/build-with-claude/prompt-engineering/overview

Prompt composition

Prompt engineering
Compose prompts from user inputs and context



https://platform.openai.com/docs/guides/prompt-engineering

Better Prompt

Write clear instructions

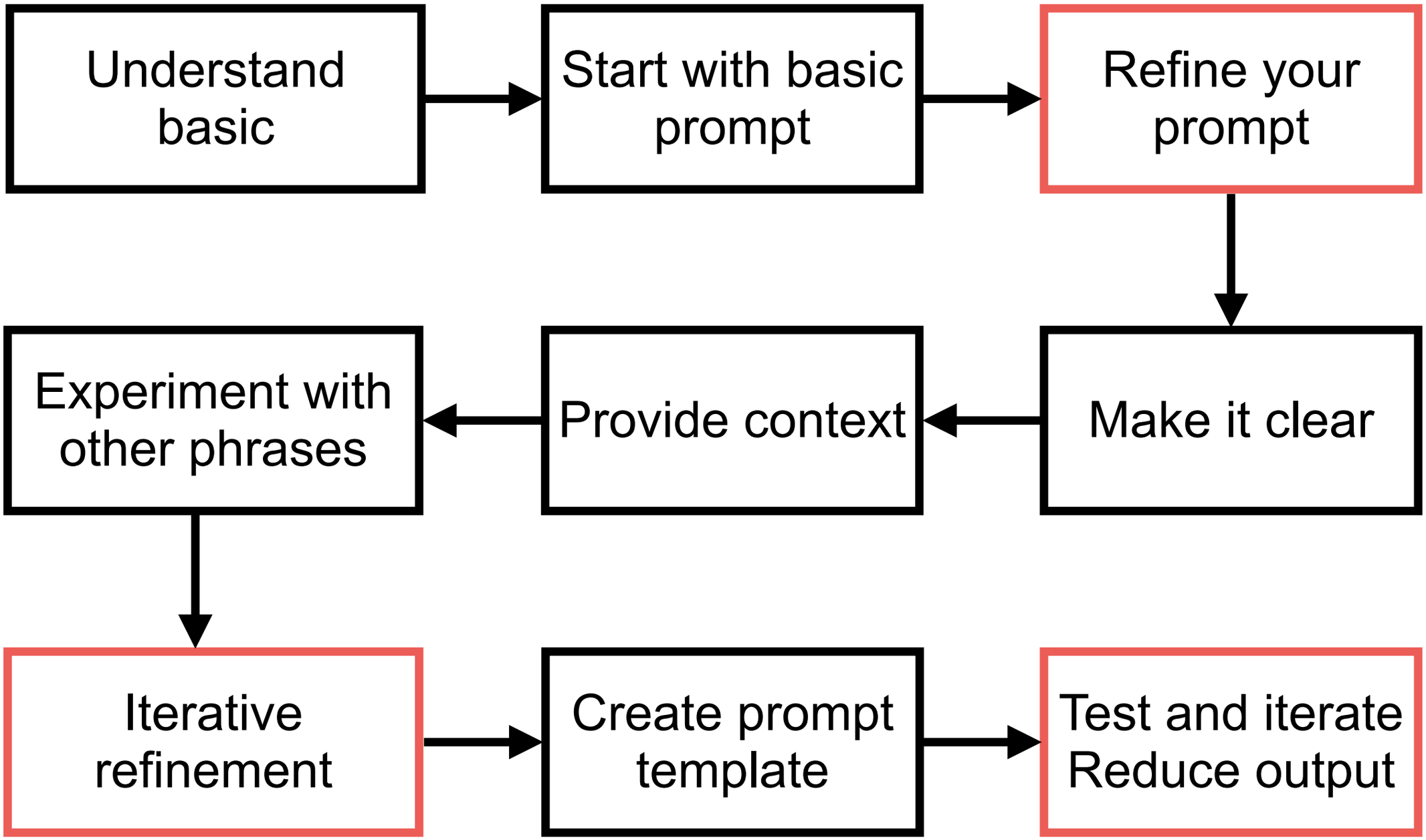
Provide reference text

Split complex tasks into simpler subtasks

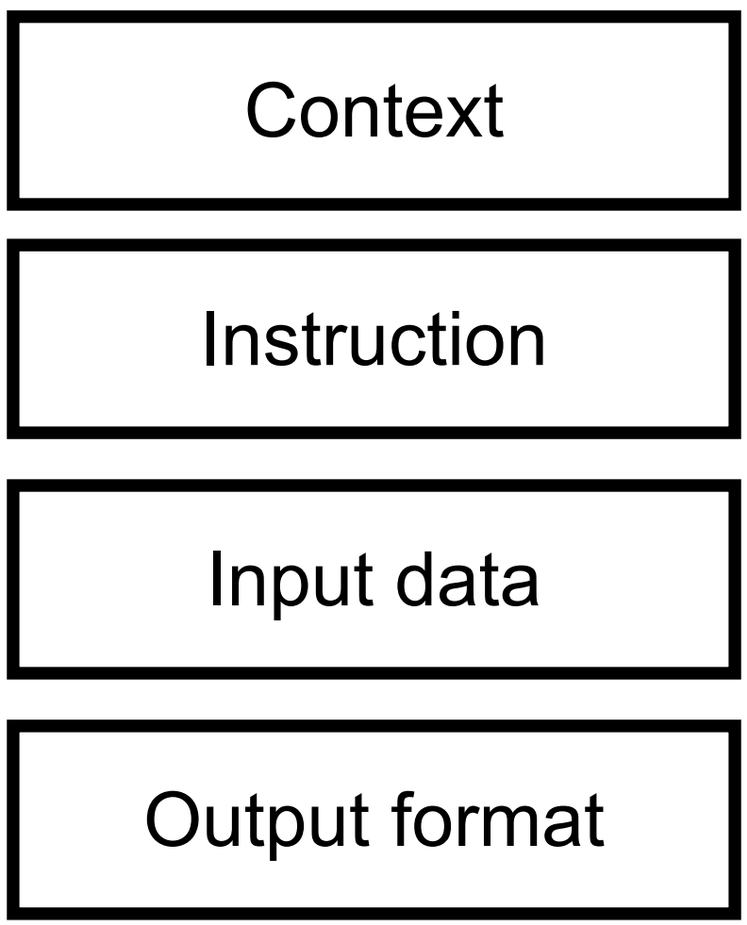
Give the model time to think

Testing and improve …

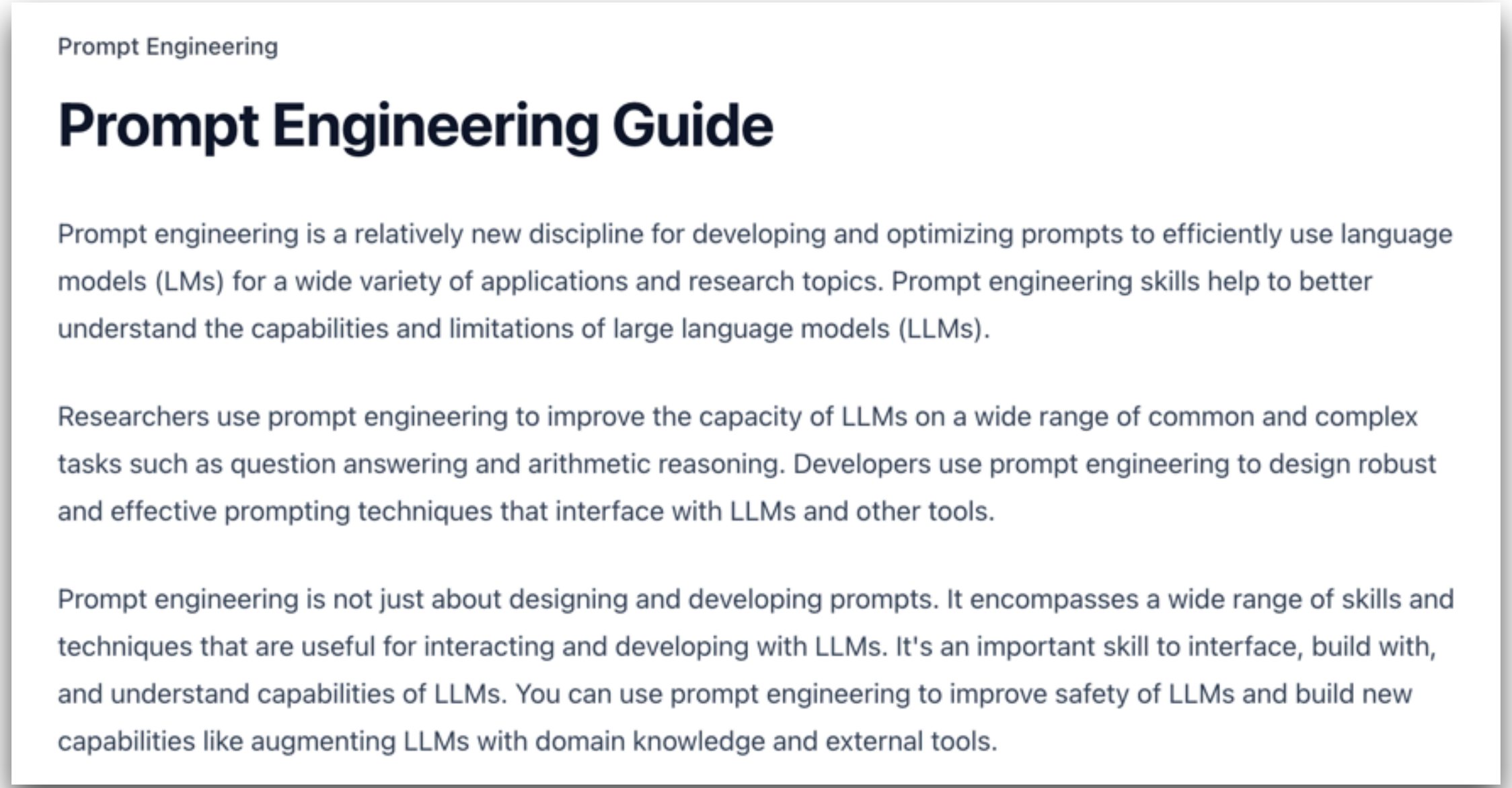
Basic of Prompt Engineer



Structure of Prompt



Prompting Guide



https://www.promptingguide.ai/

Prompt Techniques

Zero-shot

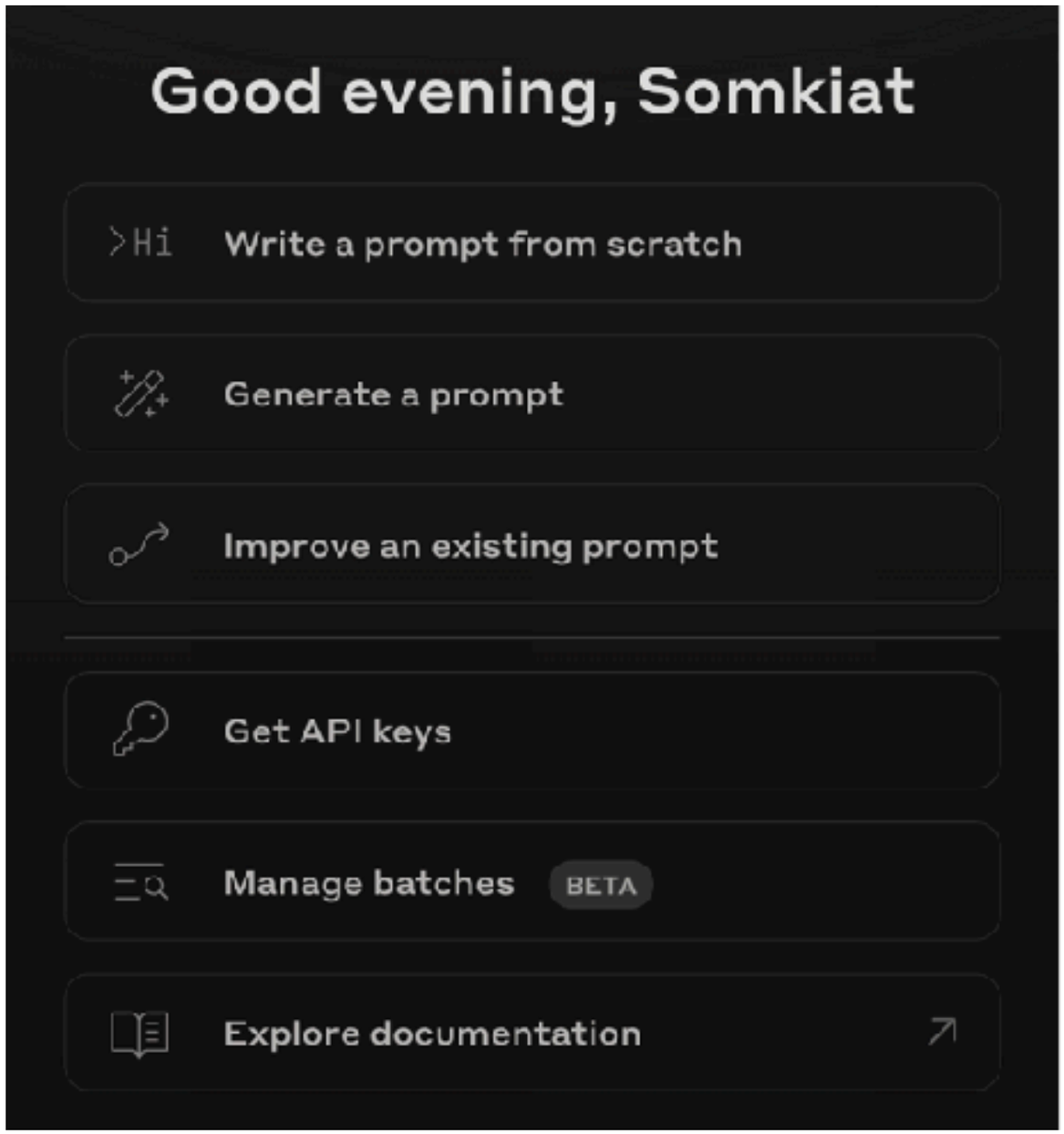
Chain-of Thought (CoT)

Few-shot

Meta or structure

https://www.promptingguide.ai/techniques

Anthropic Dashboard



https://console.anthropic.com/dashboard

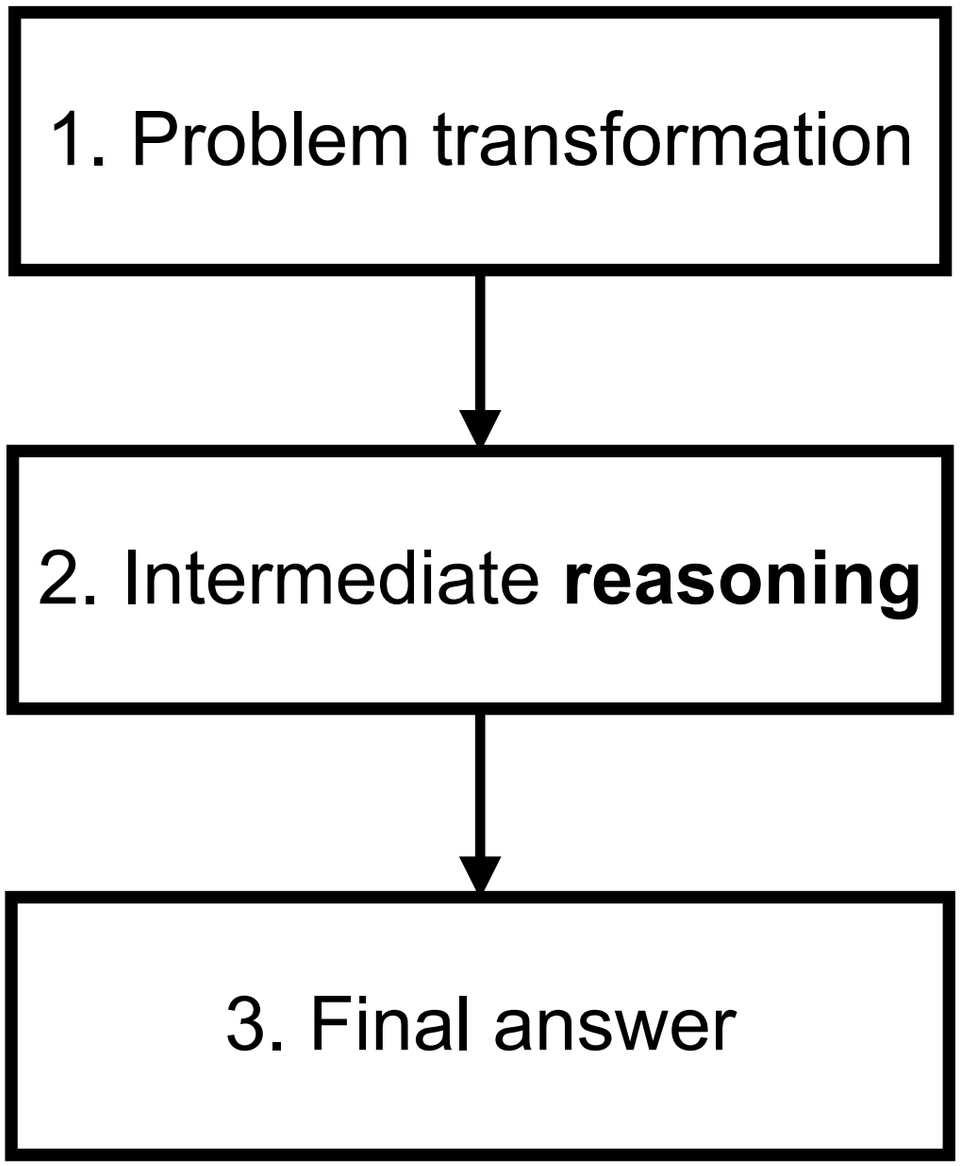
Chain of Thought Prompting (CoT)

Technique used to improve the reasoning ability of LLM

Try to break down a complex problem into smaller, More manageable steps, lead to final answer

Reasoning model !!

Chain of Thought Prompting (CoT)



eg. step-by-step

Chain of Thought Prompting (CoT)

(a) Few-shot

Q: Roger has 5 tennis balls. He buys 2 more cans of tennis balls. Each can has 3 tennis balls. How many tennis balls does he have now?
A: The answer is 11.

Q: A juggler can juggle 16 balls. Half of the balls are golf balls, and half of the golf balls are blue. How many blue golf balls are there?
A:

(Output) The answer is 8. ✗

(b) Few-shot-CoT

Q: Roger has 5 tennis balls. He buys 2 more cans of tennis balls. Each can has 3 tennis balls. How many tennis balls does he have now?
A: Roger started with 5 balls. 2 cans of 3 tennis balls each is 6 tennis balls. 5 + 6 = 11. The answer is 11.

Q: A juggler can juggle 16 balls. Half of the balls are golf balls, and half of the golf balls are blue. How many blue golf balls are there?
A:

(Output) The juggler can juggle 16 balls. Half of the balls are golf balls. So there are 16 / 2 = 8 golf balls. Half of the golf balls are blue. So there are 8 / 2 = 4 blue golf balls. The answer is 4. ✓

(c) Zero-shot

Q: A juggler can juggle 16 balls. Half of the balls are golf balls, and half of the golf balls are blue. How many blue golf balls are there?
A: The answer (arabic numerals) is

(Output) 8 ✗

(d) Zero-shot-CoT (Ours)

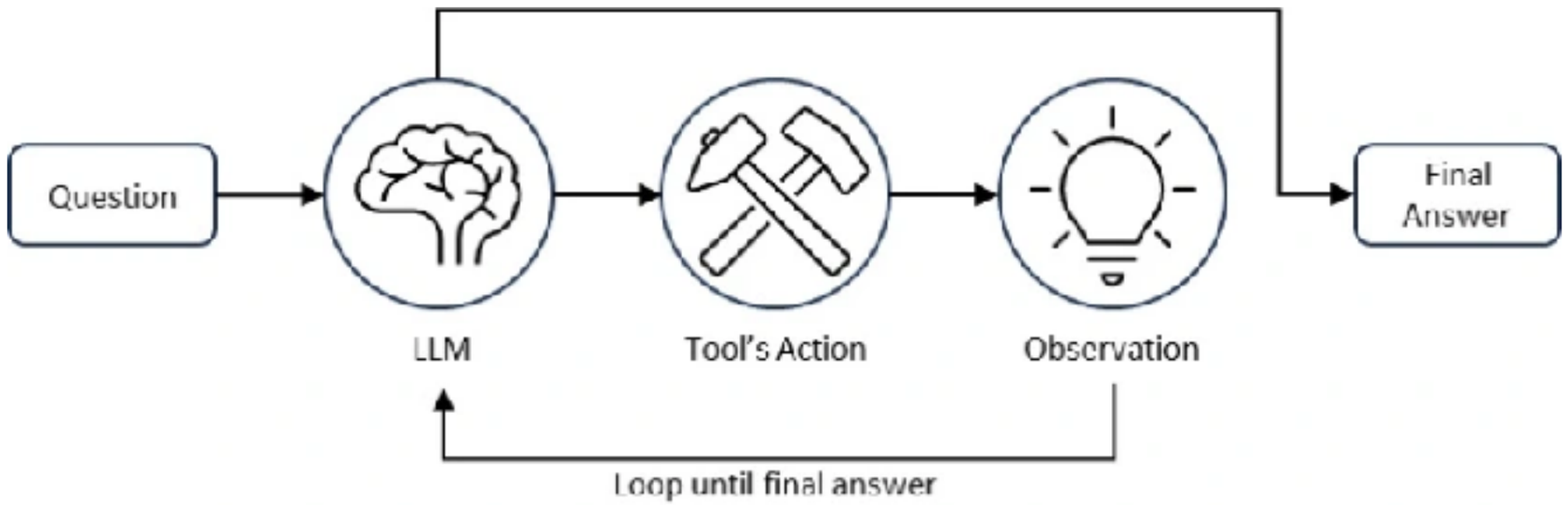
Q: A juggler can juggle 16 balls. Half of the balls are golf balls, and half of the golf balls are blue. How many blue golf balls are there?
A: ***Let's think step by step.***

(Output) There are 16 balls in total. Half of the balls are golf balls. That means that there are 8 golf balls. Half of the golf balls are blue. That means that there are 4 blue golf balls. ✓

https://www.promptingguide.ai/techniques/cot

ReAct Prompt

LLM reasoning and additional tools (expert)
Improve better answer



https://www.promptingguide.ai/techniques/react

Hallucinations in LLM !!

Generated content that irrelevant or inconsistent

Incorrect information

Trust

Training data quality

https://www.lakera.ai/blog/guide-to-hallucinations-in-large-language-models

Consequences of LLM Hallucination

Privacy Issues

6x increase in toxicity: ChatGPT persona assignment perpetuates harmful stereotypes

Misinformation and Disinformation

74% of IT decision-makers concerned about cybersecurity risks with GPT-4

Discriminating and Toxic Content

49% of individuals foresee GPT-4 as a tool for spreading misinformation

master.of.code GLOBAL

masterofcode.com

https://www.lakera.ai/blog/guide-to-hallucinations-in-large-language-models

How to mitigate LLM hallucinations?

1	2	3	4
Pre-processing and Input Control	**Model Configuration & Behavior**	**Learning and Improvement**	**Context and Data Enhancement**
Limiting response length	Adjusting model parameters	Feedback, Monitoring & Improvement Mechanisms	Incorporating an external database
Controlled input	Using a moderation layer	Domain Adaptation and Augmentation	Contextual prompt engineering

master.of.code GLOBAL

masterofcode.com

https://masterofcode.com/blog/hallucinations-in-llms-what-you-need-to-know-before-integration

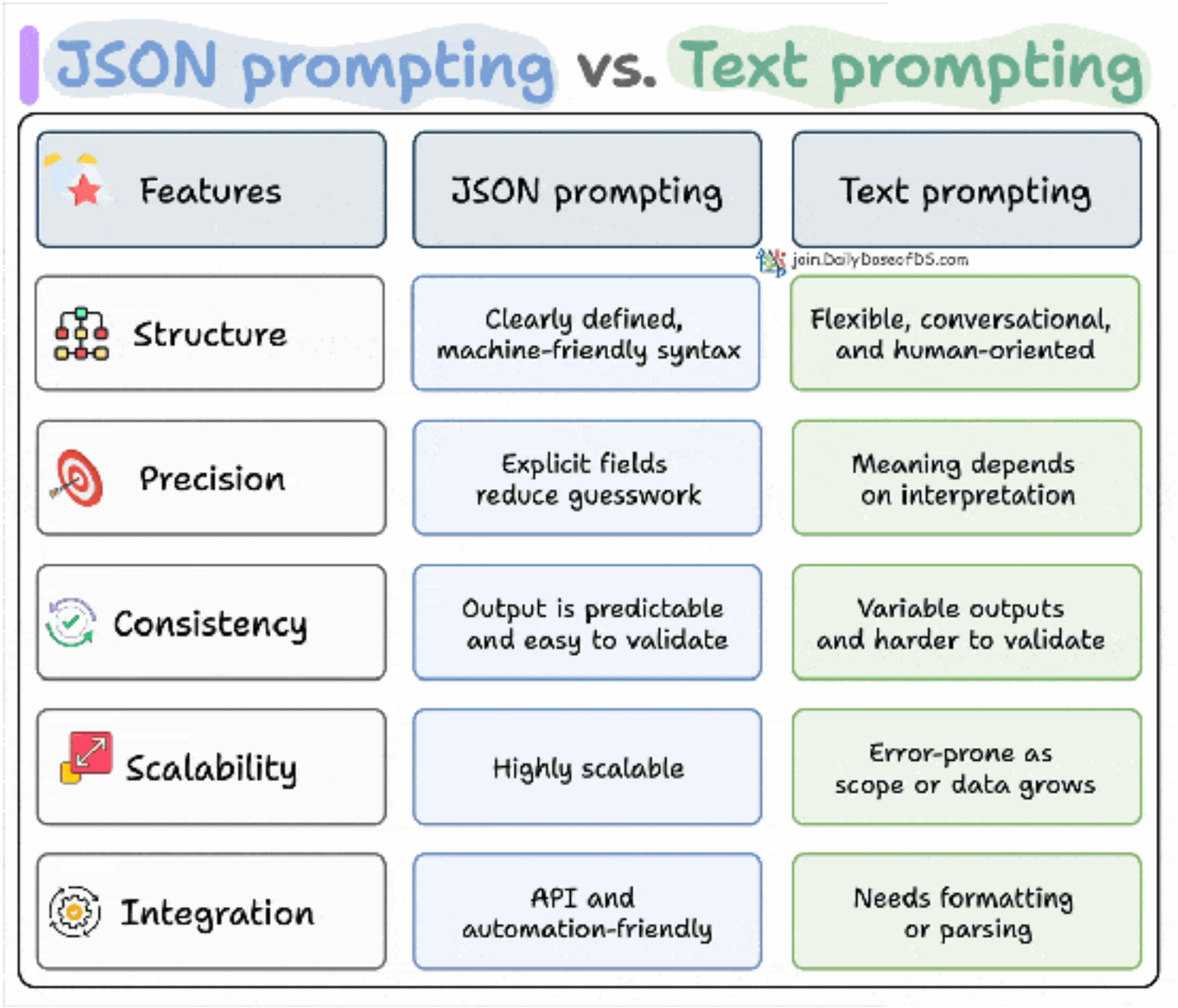
Structured Prompt

Structured Prompt

Text, Markdown, XML, JSON

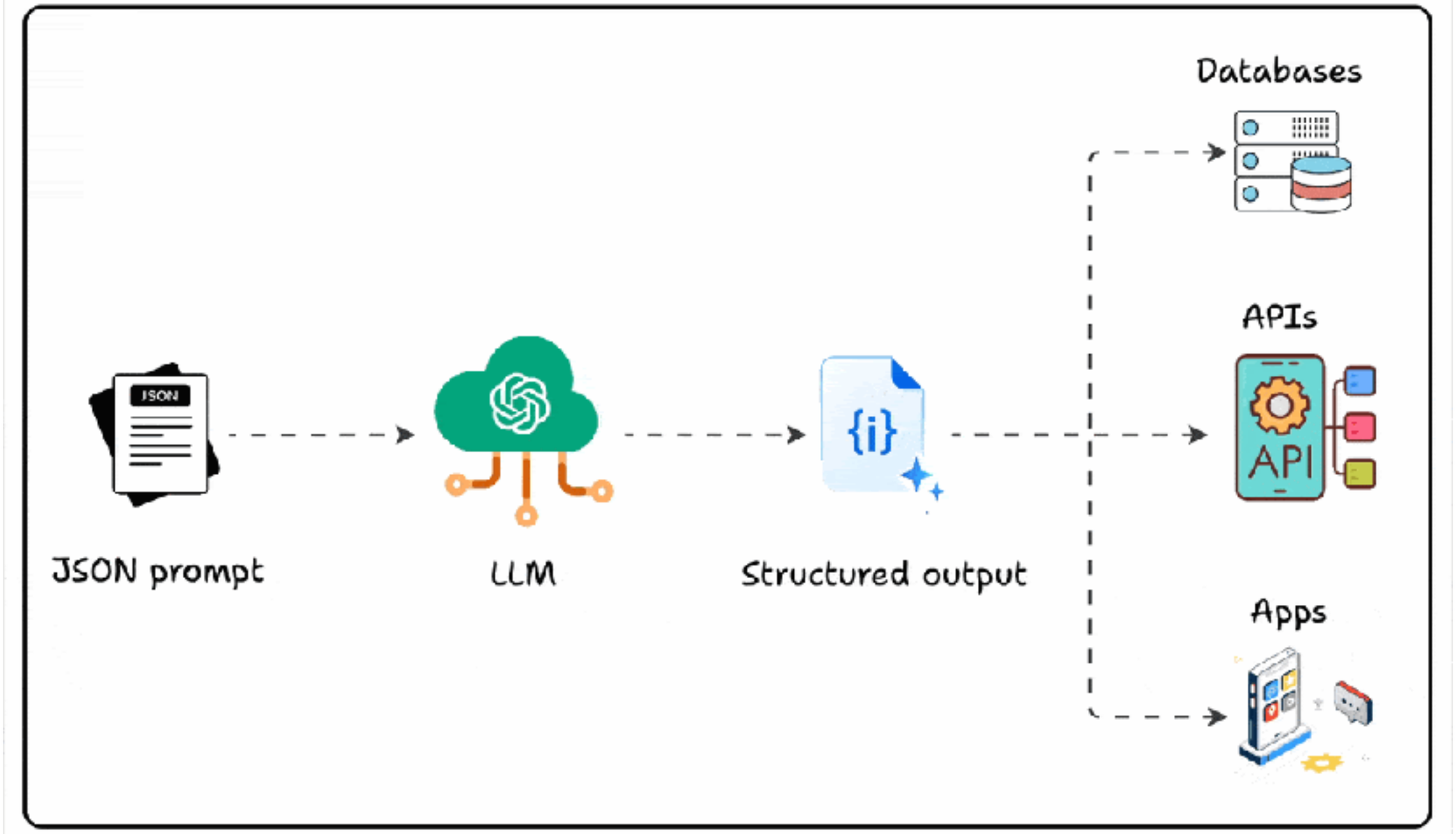
Text vs JSON Prompt !!

Structured prompt, reduce hallucinations



JSON Prompt

JSON Prompt



Many models excel at other formats !!

Claude handles **XML**

Markdown provide structure without overhead

JSON and Markdown

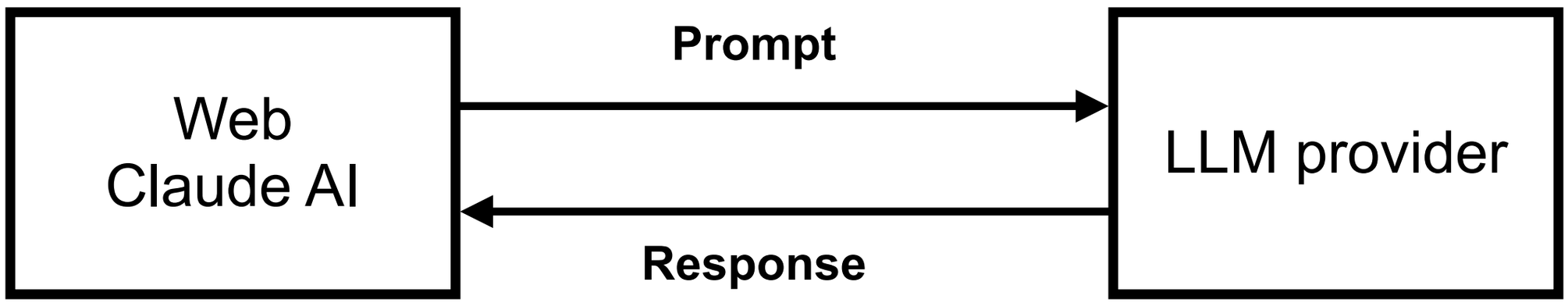
Use XML in Claude AI

Clarify	Accuracy
Flexibility	Parse-ability

https://docs.anthropic.com/en/docs/build-with-claude/prompt-engineering/use-xml-tags

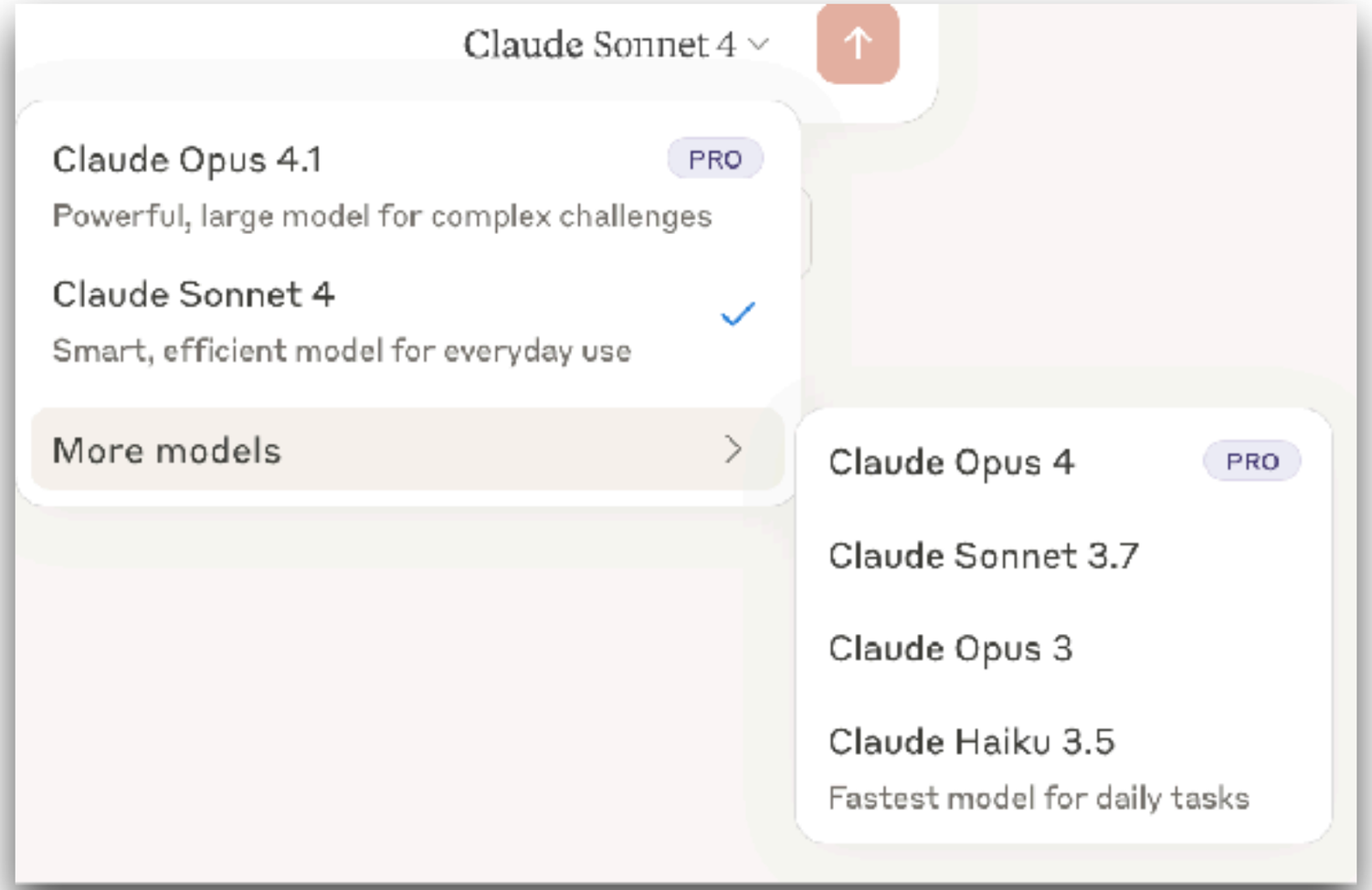
Workshop

Chat with Claude AI



https://claude.ai/new

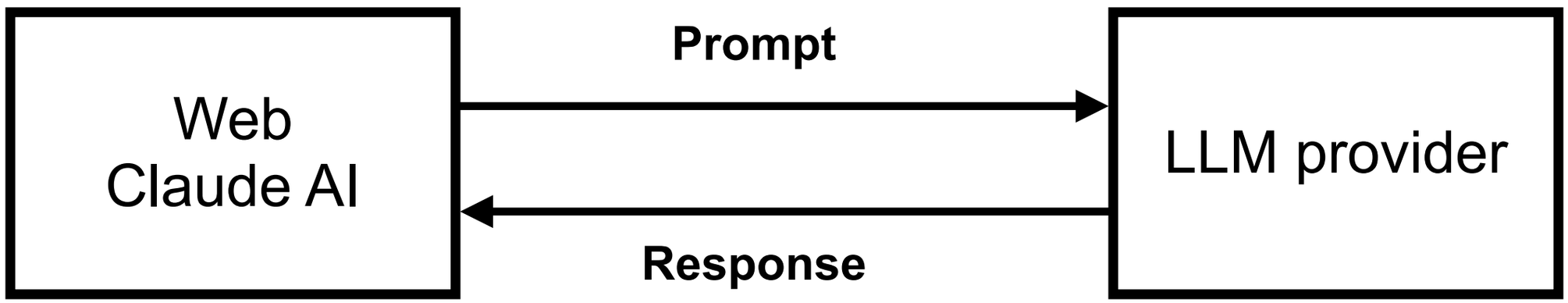
Choose model !!



https://docs.anthropic.com/en/docs/about-claude/models/overview

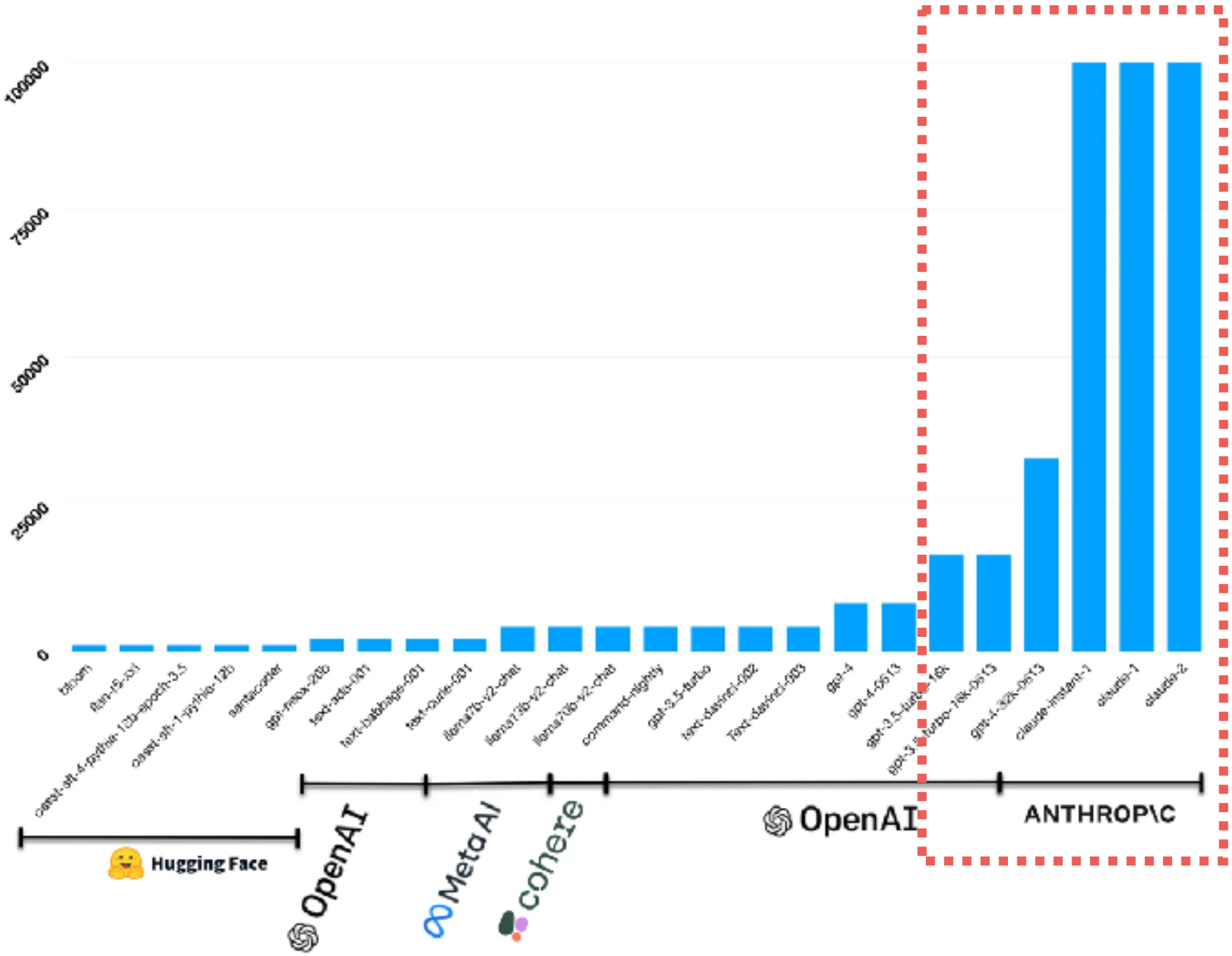
Chat with Claude AI

Context window
200,000 **tokens**



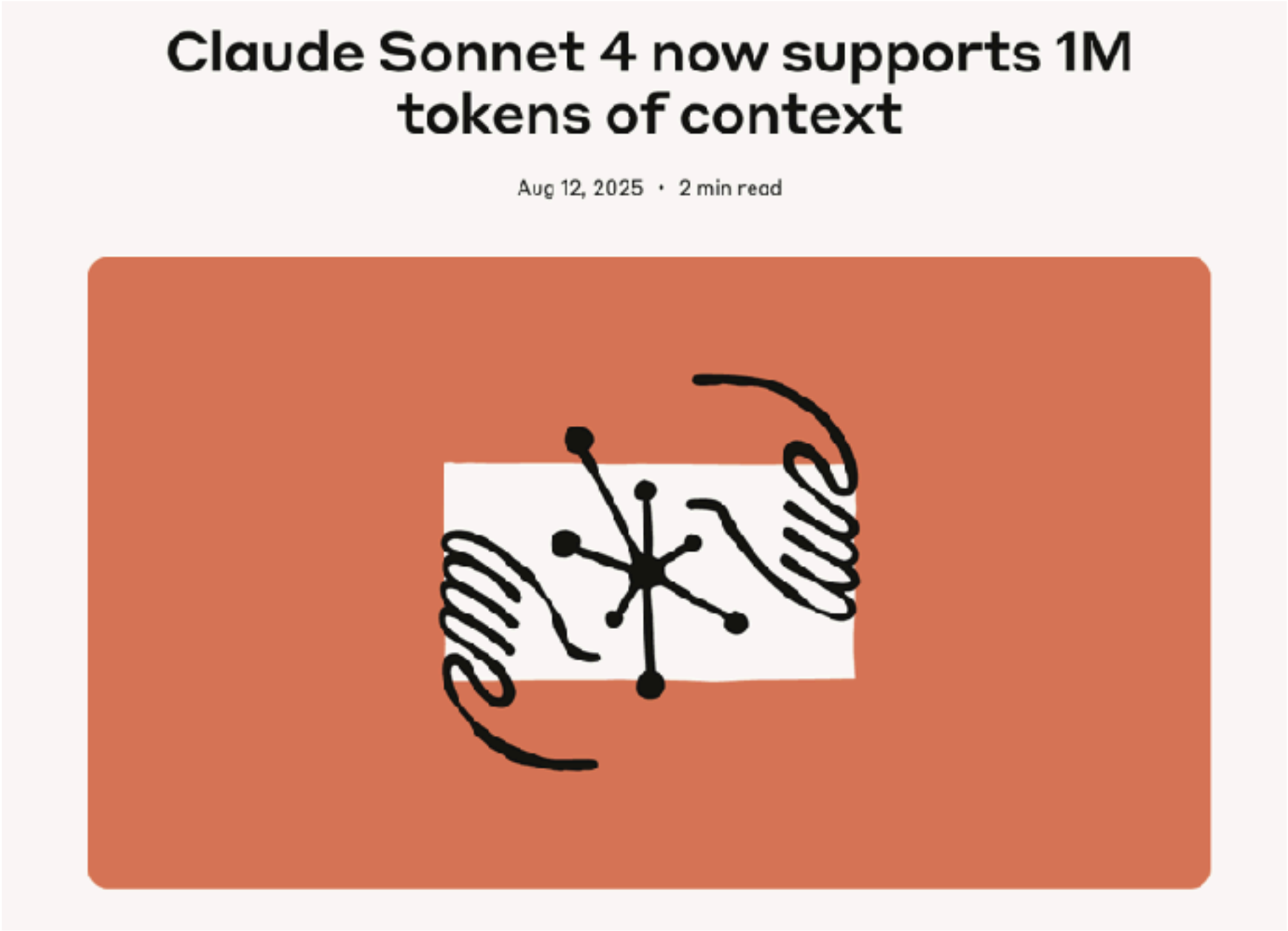
https://claude.ai/new

Large Language Model Context Size



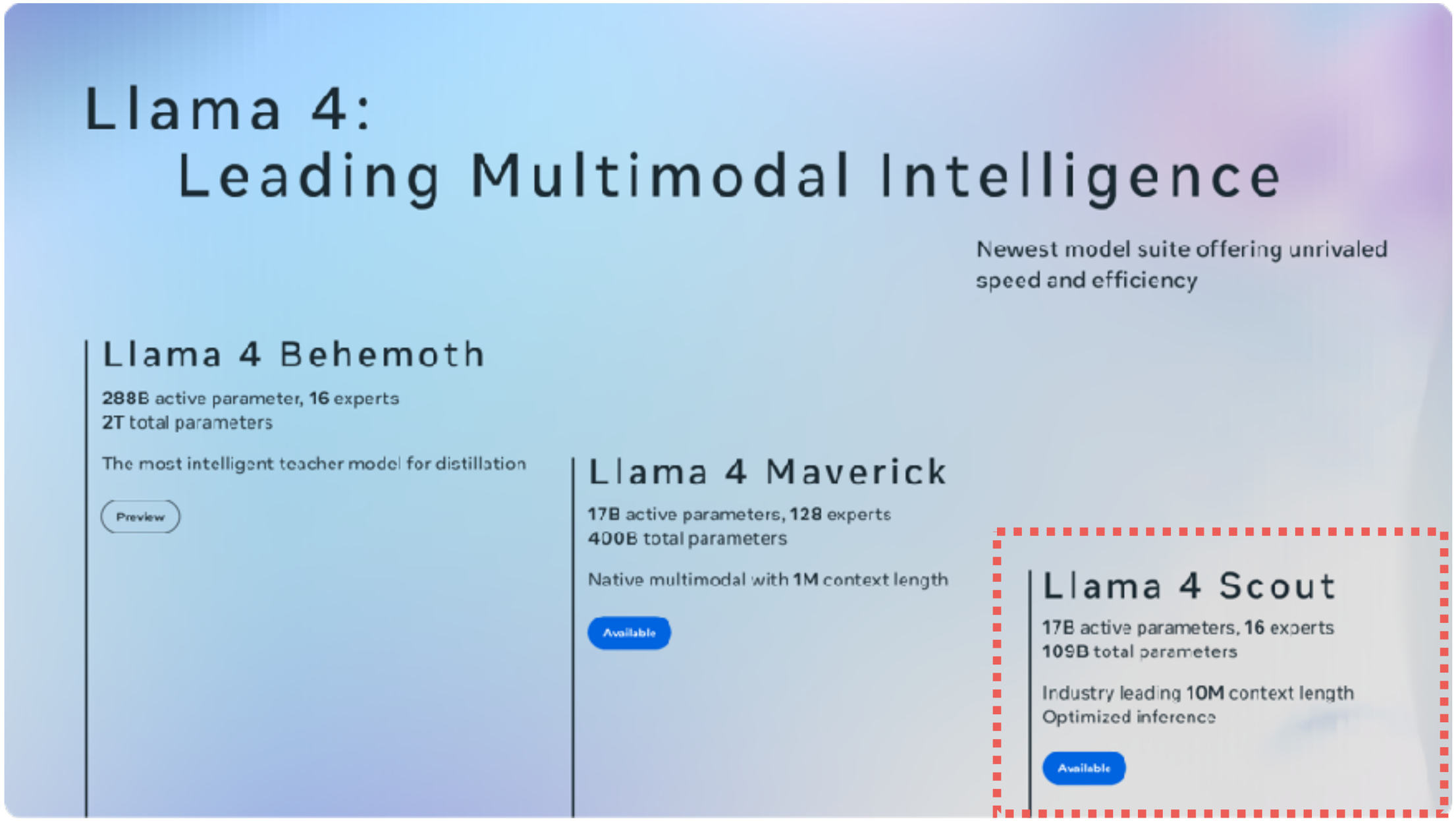
https://www.humanfirst.ai/blog/how-does-large-language-models-use-long-contexts

Claude Sonnet 4 => 1M



https://www.anthropic.com/news/1m-context

Llama 4 from Meta (10M)



https://ai.meta.com/blog/llama-4-multimodal-intelligence/

Long context, more use cases

Large scale code analysis

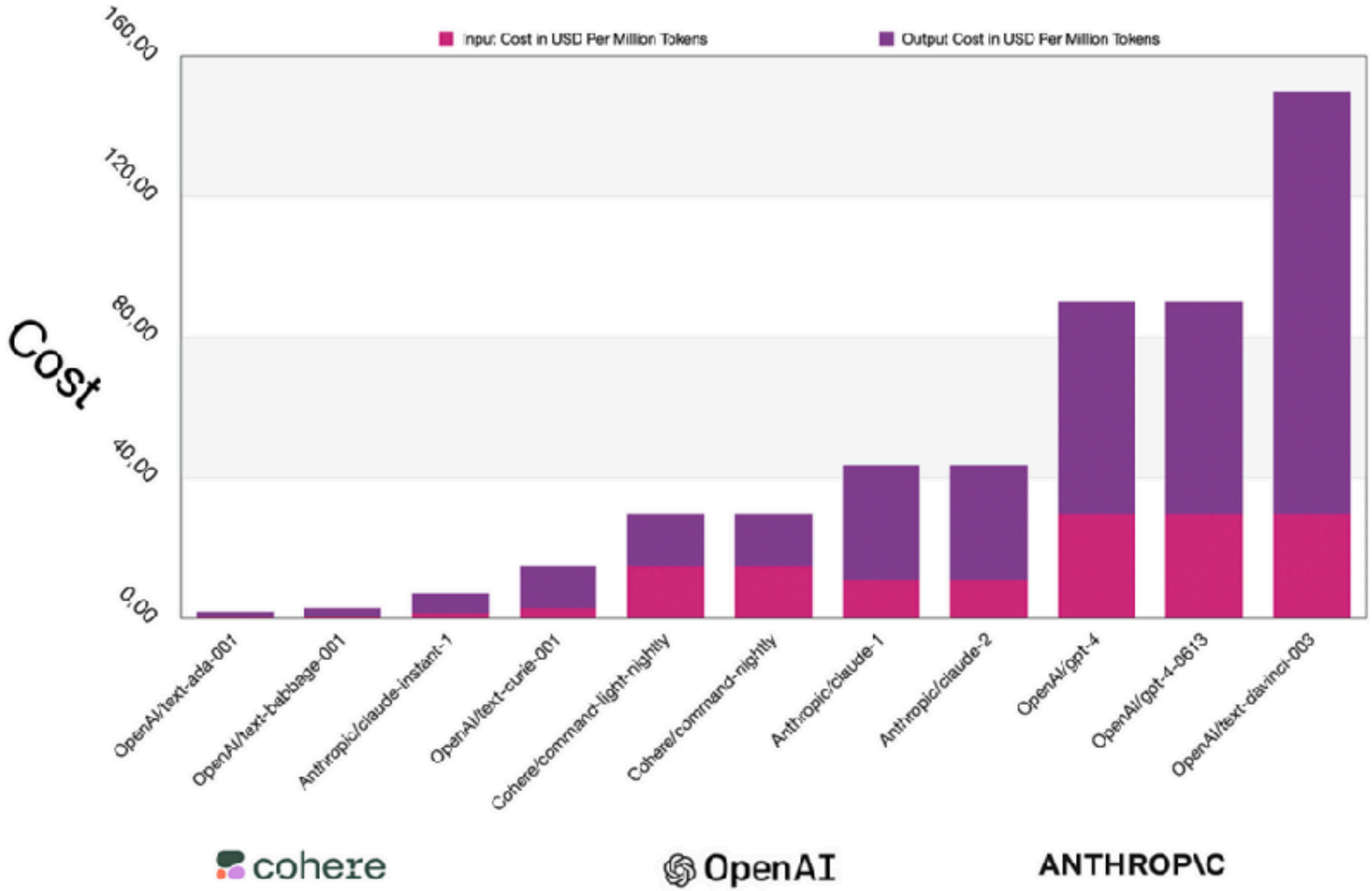
Document synthesis

Context-aware agents

Pricing !!

	Input	Output
Prompts ≤ 200K	$3 / MTok	$15 / MTok
Prompts > 200K	$6 / MTok	$22.50 / MTok

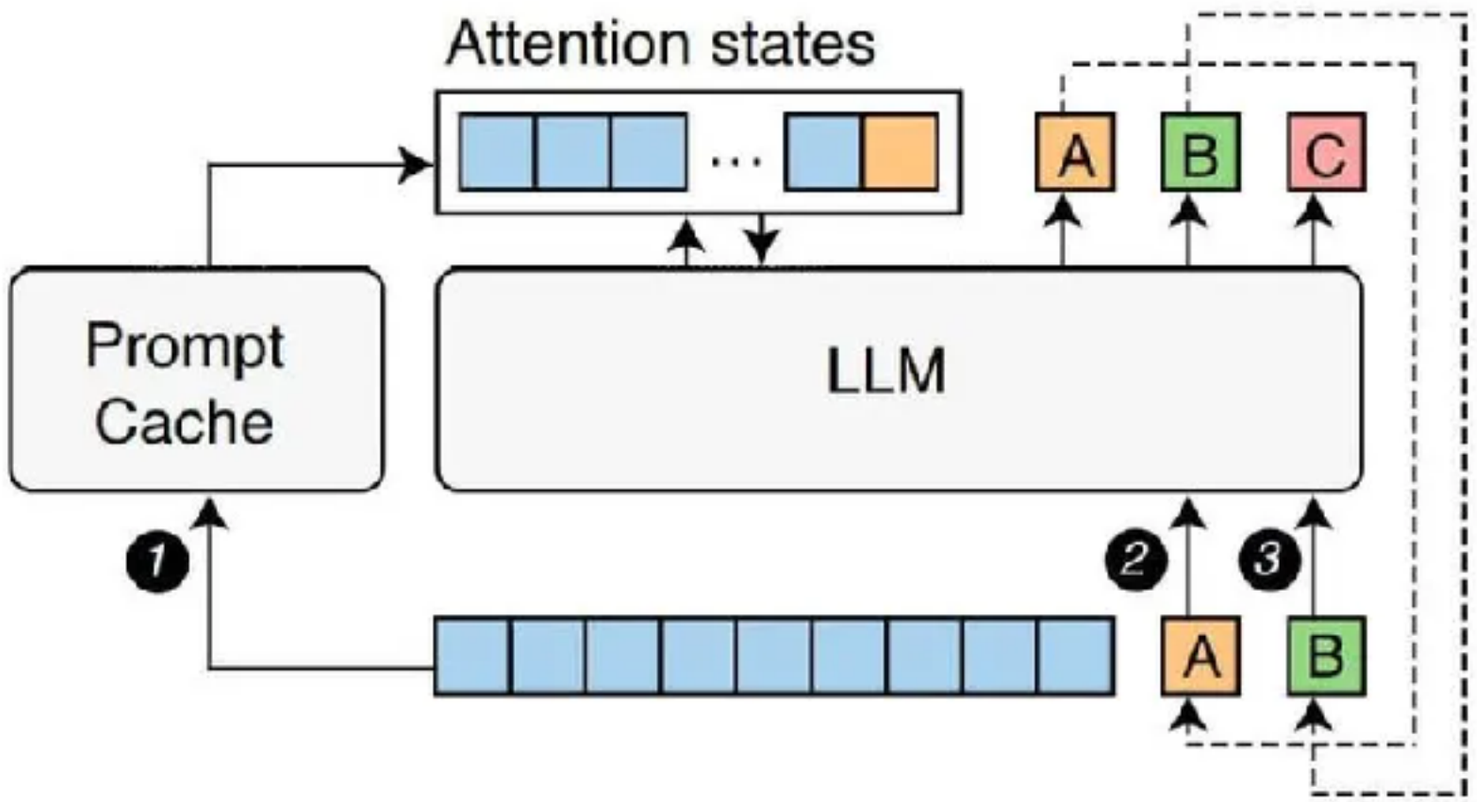
LLM Models Cost !!



https://www.humanfirst.ai/blog/how-does-large-language-models-use-long-contexts

Context Caching

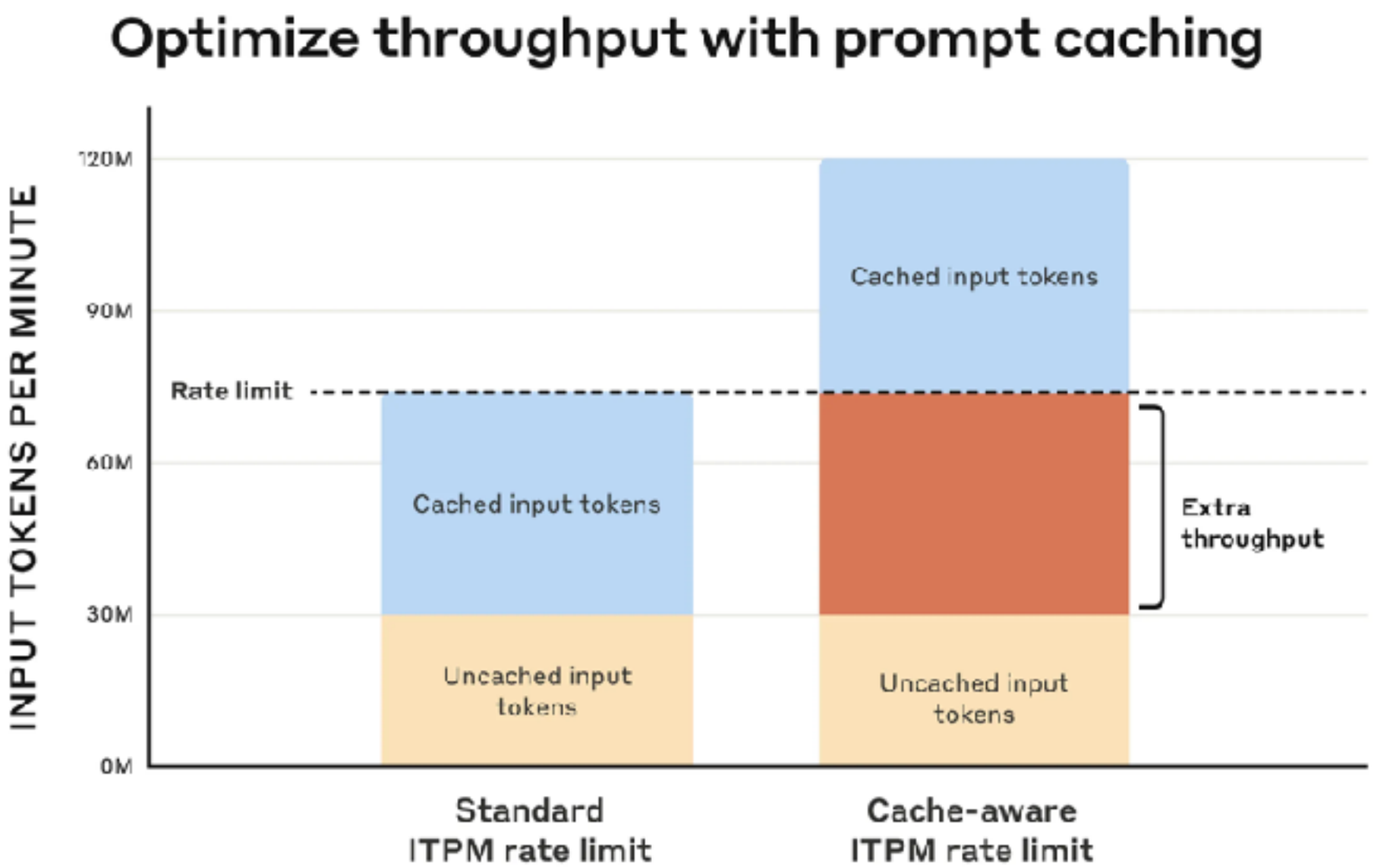
Prompt caching



(c) Generation with Prompt Cache

https://github.com/anthropics/anthropic-cookbook/blob/main/misc/prompt_caching.ipynb

Context caching with Anthropic API



https://www.anthropic.com/news/token-saving-updates

Prompt caching

Before (manual cache control on each element)

System Prompt:

```
... long system prompt cache_control: {type: "ephemeral"}
```

User Message:

```
Hello, can you tell me more about the solar system?
cache_control: {type: "ephemeral"}
```

Assistant Reply:

```
Certainly! The solar system is the collection of
celestial bodies...
```

New User Message:

```
Tell me more about Mars. cache_control: {type:
"ephemeral"}
```

After (automatic use of longest cached prefix)

System Prompt:

```
... long system prompt
```

User Message:

```
Hello, can you tell me more about the solar system?
```

Assistant Reply:

```
Certainly! The solar system is the collection of
celestial bodies...
```

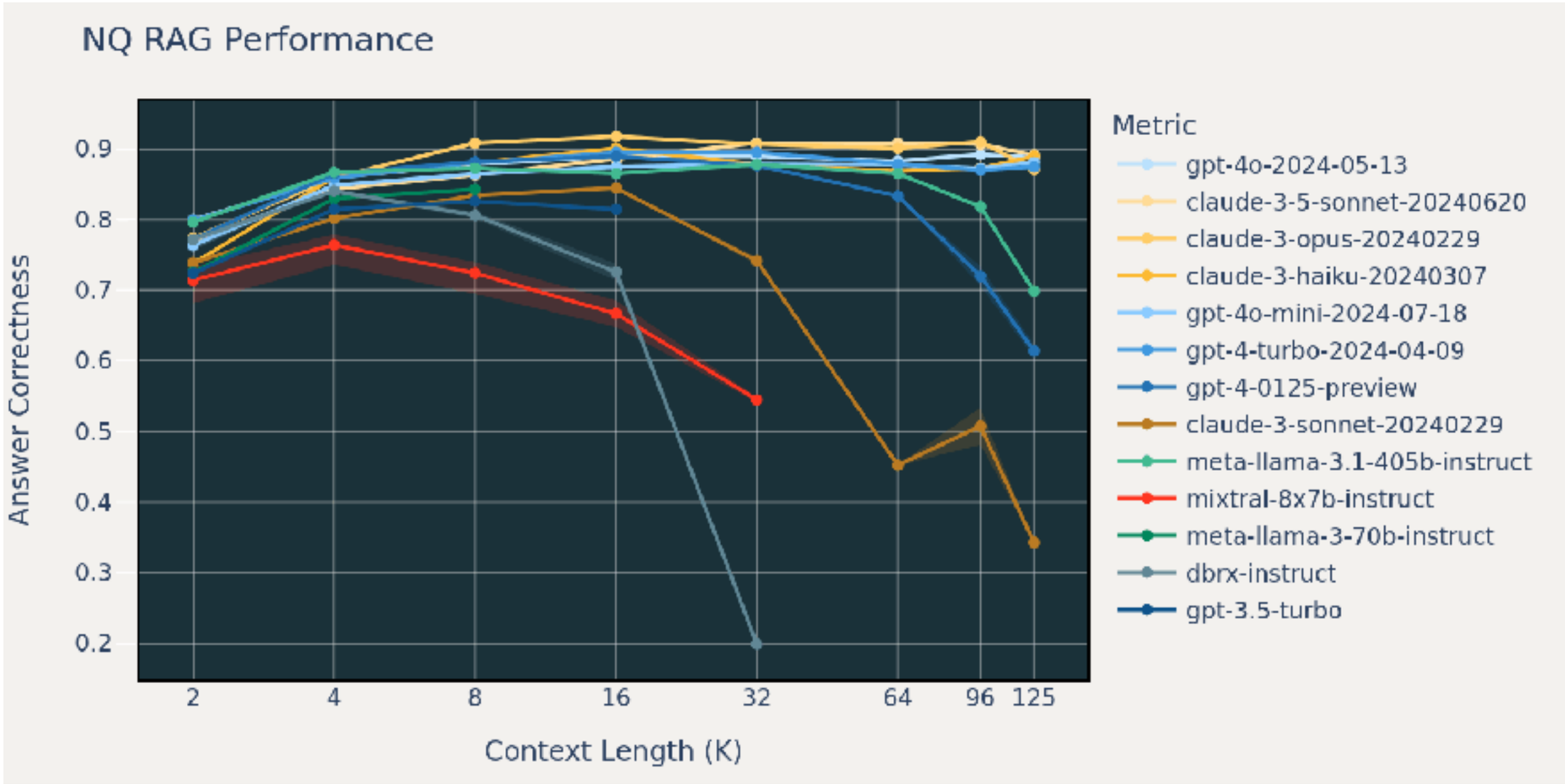
New User Message:

```
Tell me more about Mars. cache_control: {type:
"ephemeral"}
```

https://docs.anthropic.com/en/docs/build-with-claude/prompt-caching

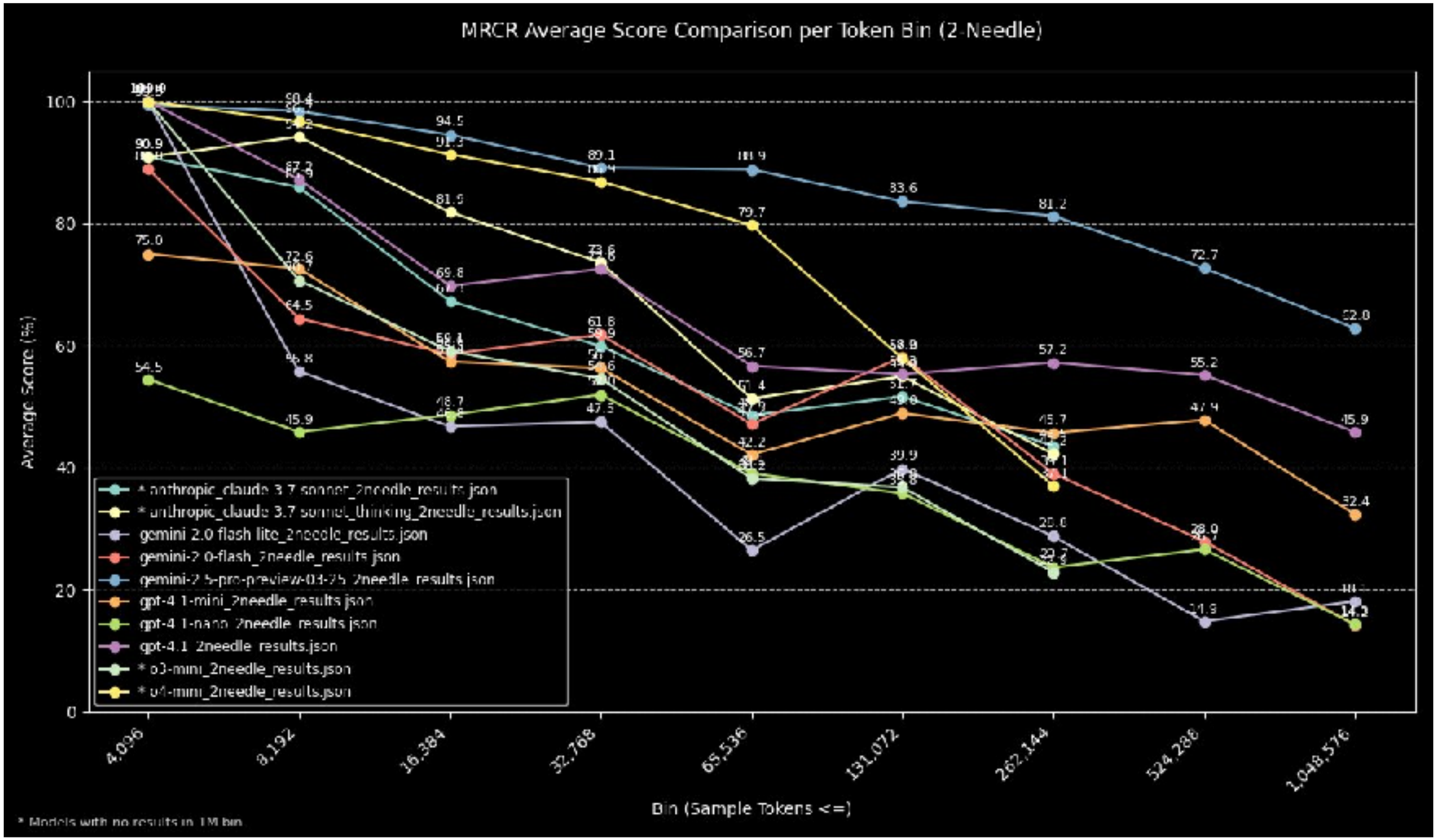
Long context with correctness !!

Long context with correctness !



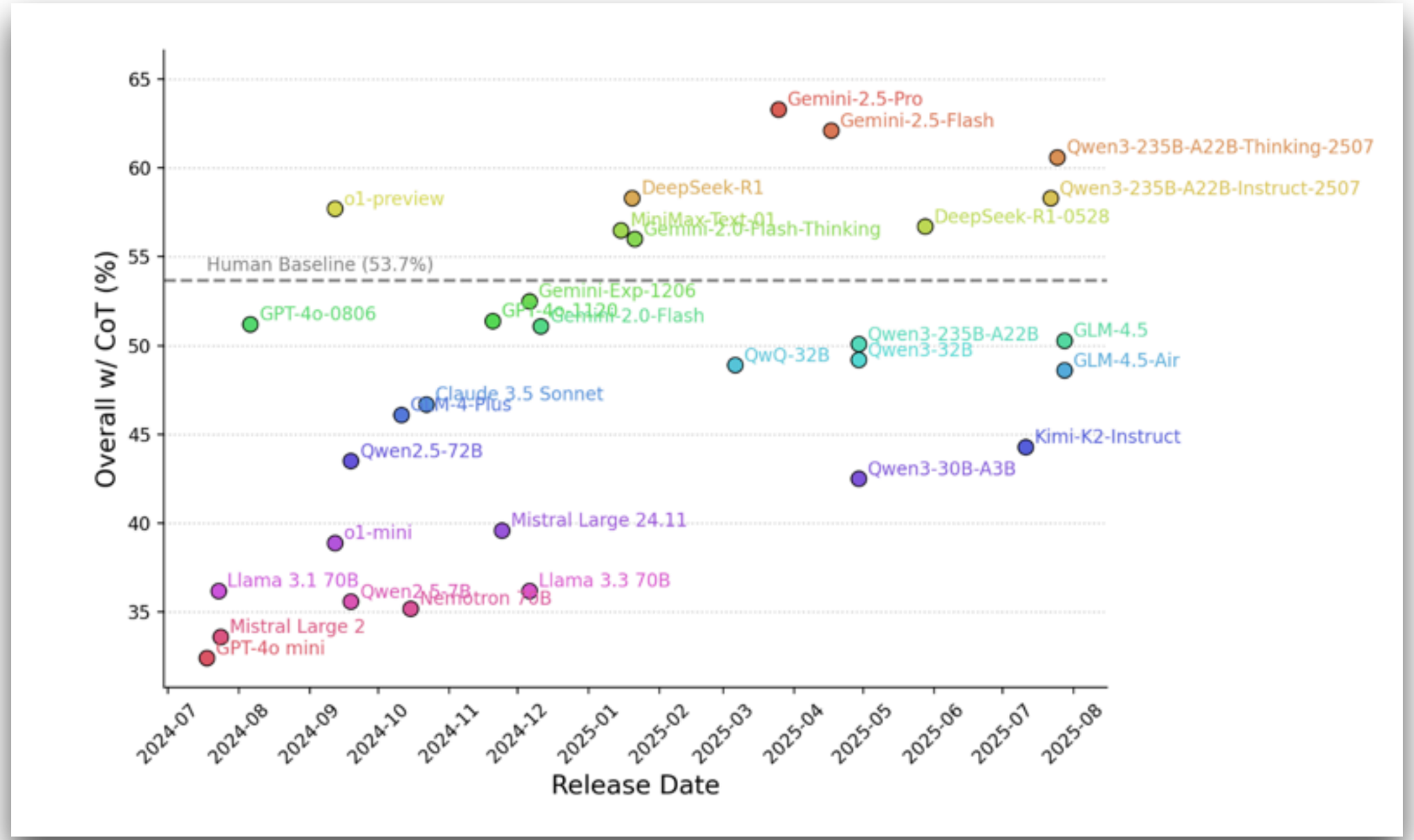
https://www.databricks.com/blog/long-context-rag-performance-llms

Long context with correctness !



https://x.com/wintermoat/status/1913001771506561369/photo/1

LongBench v2

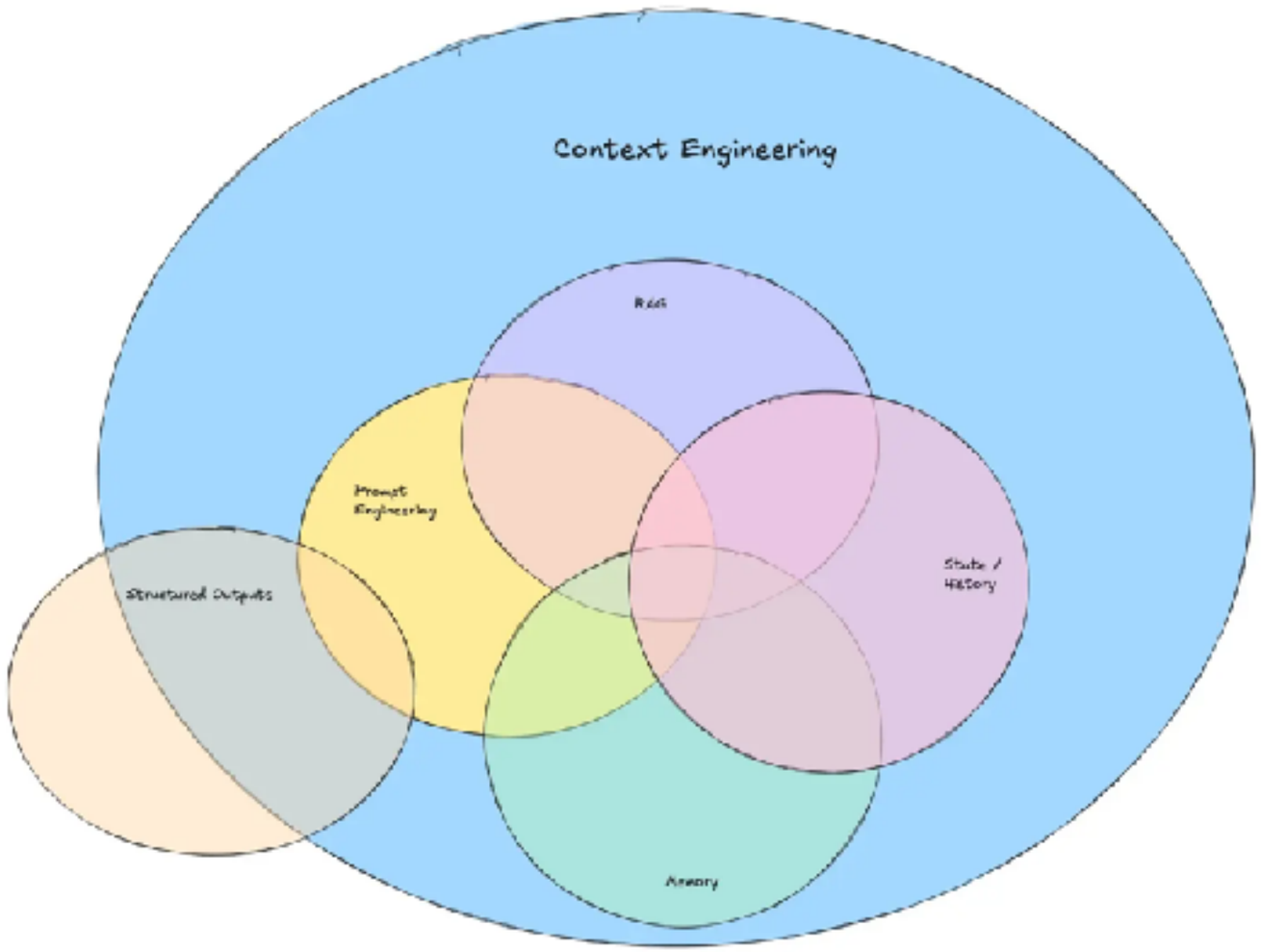


https://longbench2.github.io/

Context Engineering !!

Context Engineering

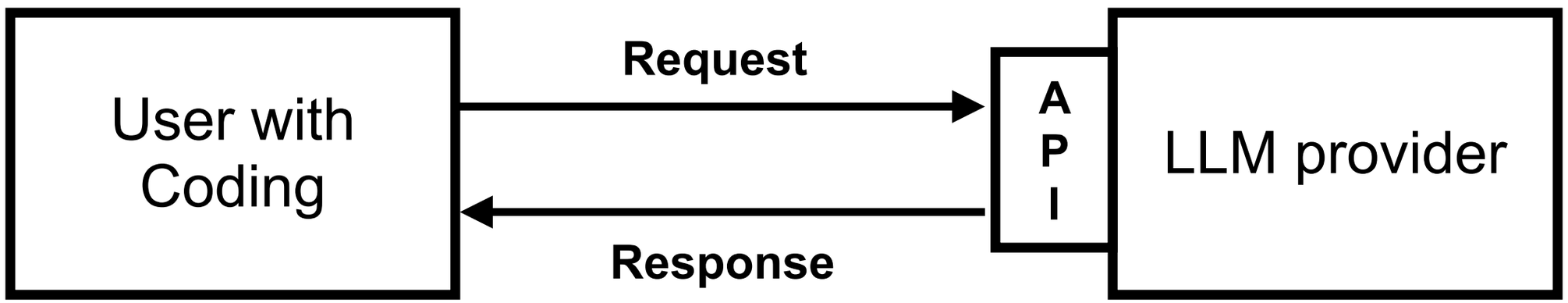
Tuning instructions and relevant context that LLM need



https://www.promptingguide.ai/guides/context-engineering-guide

Working with API

Working with APIs



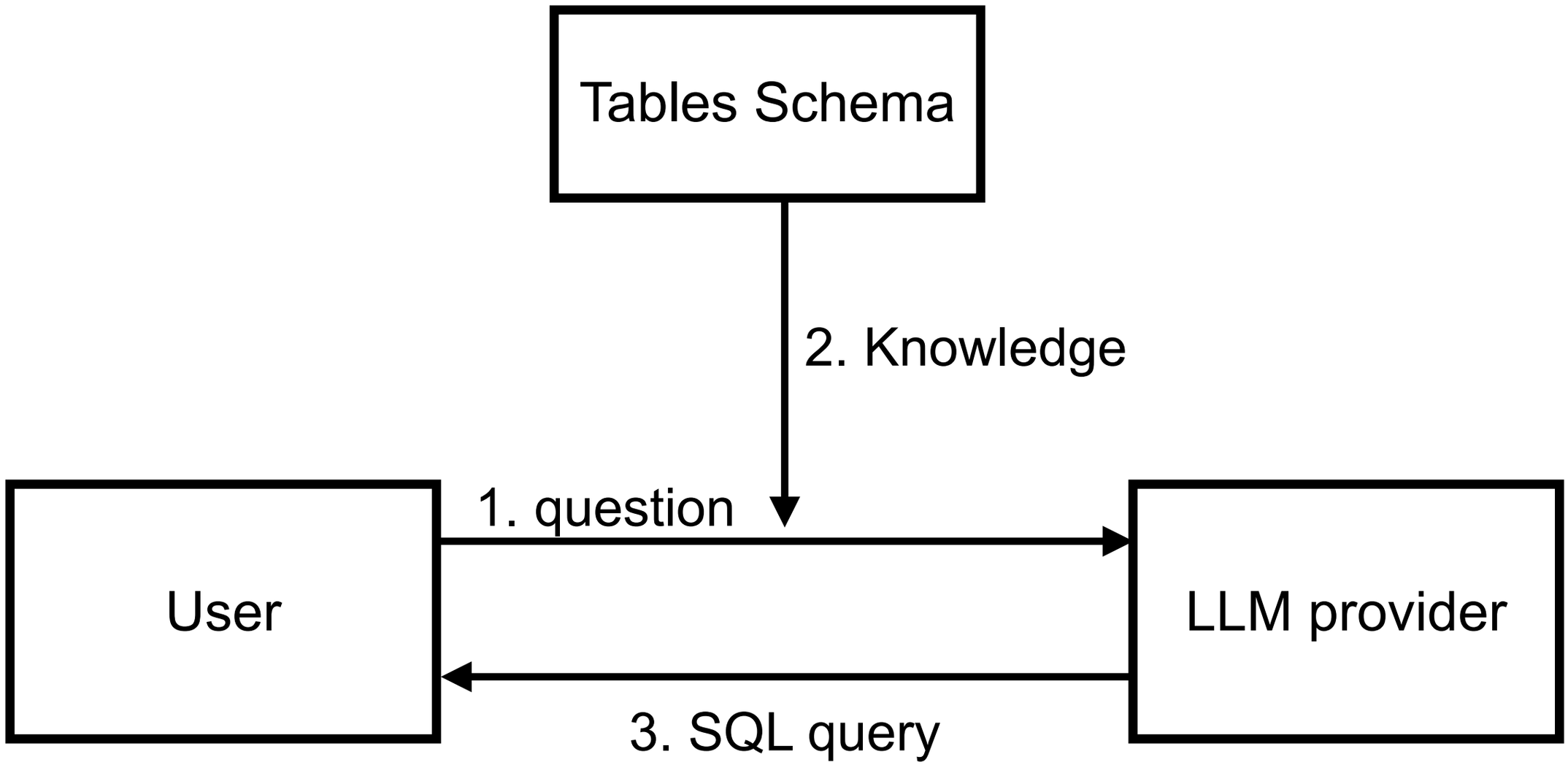
https://console.anthropic.com/dashboard

Anthropic and OpenAI SDK

```python
from openai import OpenAI

client = OpenAI(
    api_key="ANTHROPIC_API_KEY",  # Your Anthropic API key
    base_url="https://api.anthropic.com/v1/"  # Anthropic's API endpoint
)

response = client.chat.completions.create(
    model="claude-opus-4-1-20250805", # Anthropic model name
    messages=[
        {"role": "system", "content": "You are a helpful assistant."},
        {"role": "user", "content": "Who are you?"}
    ],
)

print(response.choices[0].message.content)
```

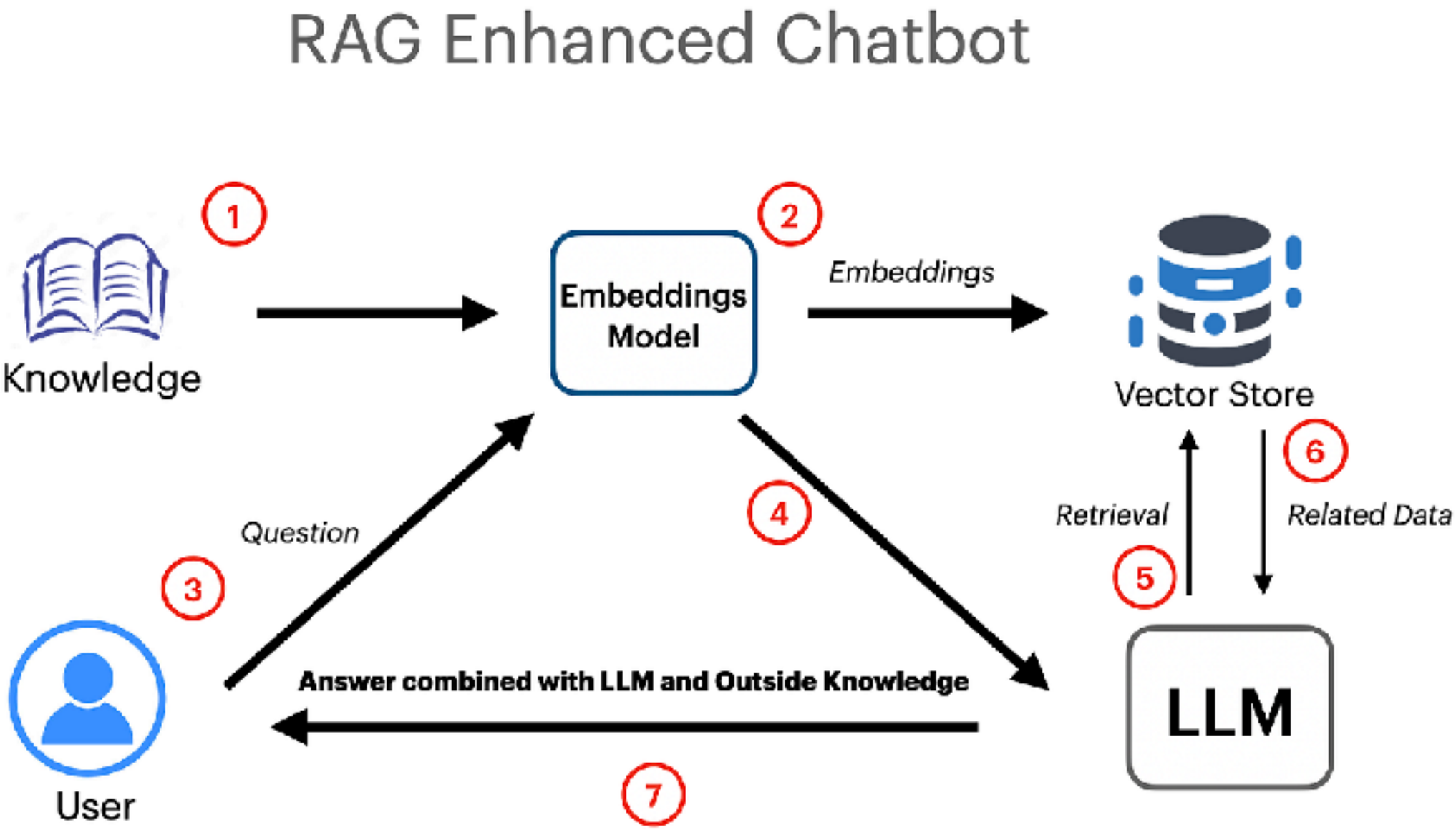
https://docs.anthropic.com/en/api/openai-sdk

Text-to-SQL



https://github.com/up1/workshop-ai-with-technical-team/tree/main/workshop/demo-sql

ChatBot !!

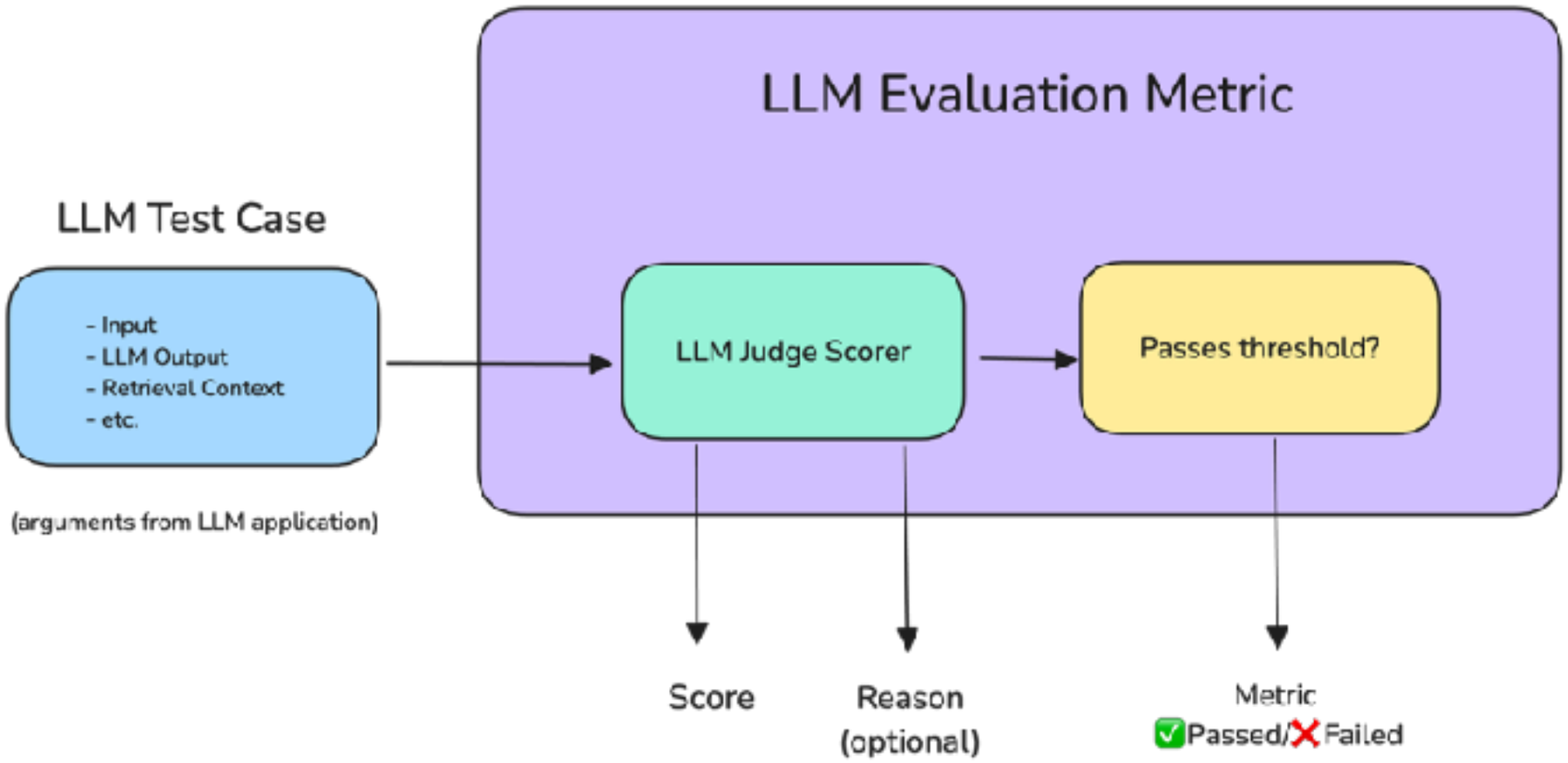


https://github.com/up1/workshop-basic-llm/tree/main/workshop/customer_support

Evaluation in LLM

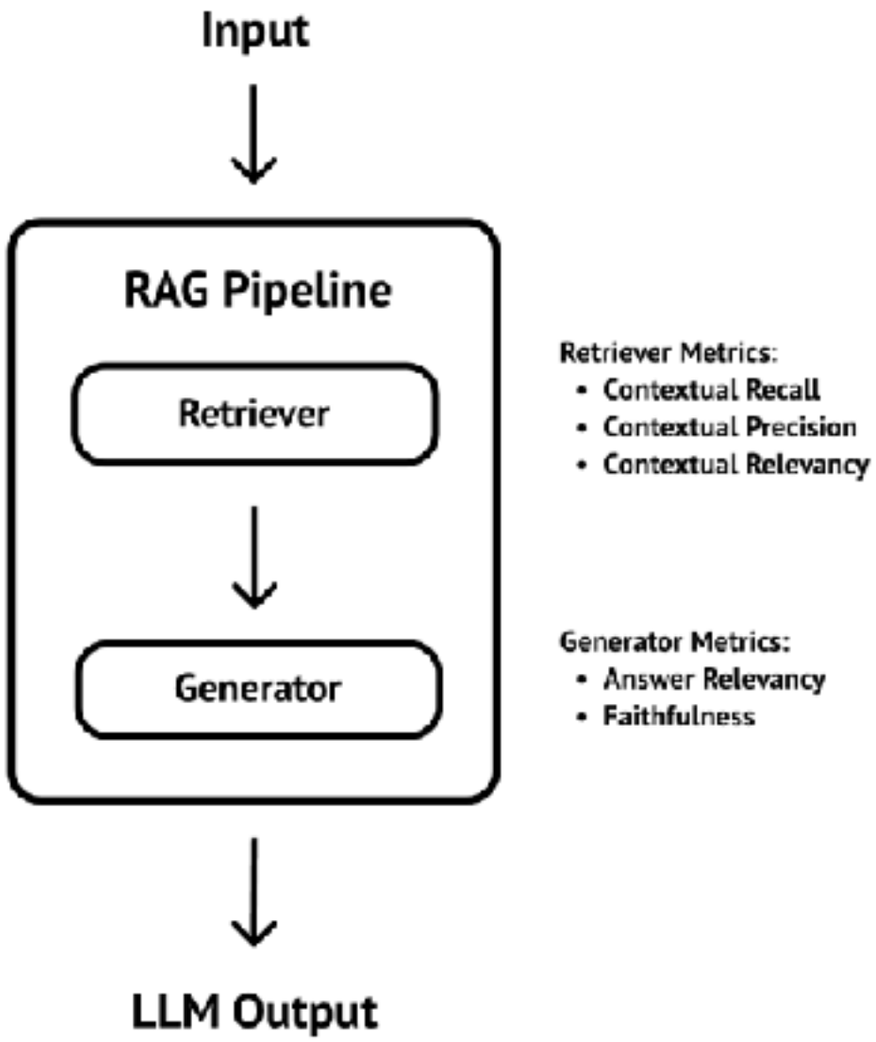
Evaluation in LLM

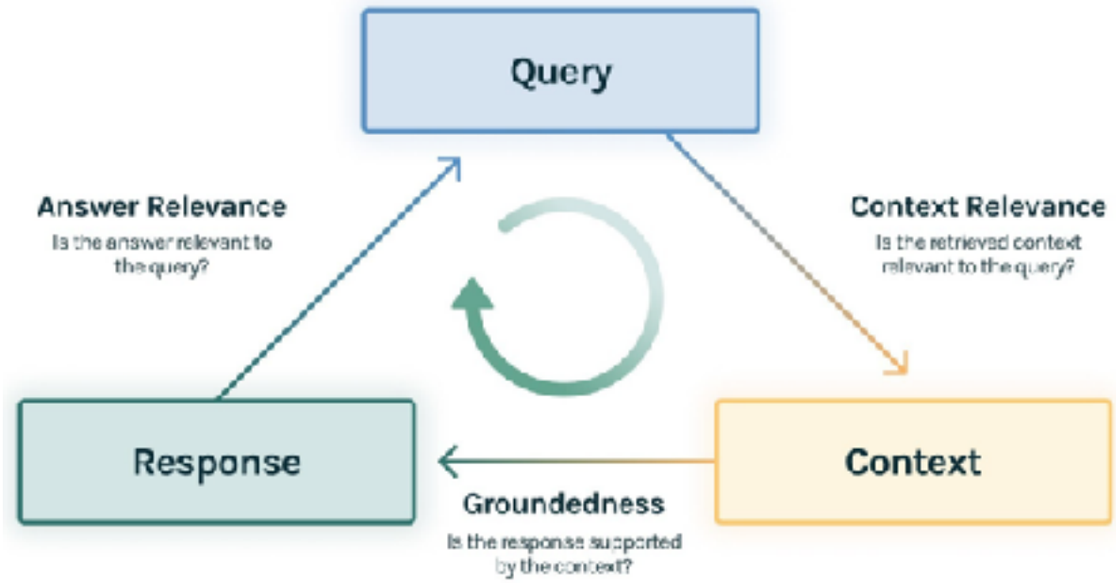
Answer correctness, context relevant
Semantic similarity
Hallucinations



https://www.confident-ai.com/blog/llm-evaluation-metrics-everything-you-need-for-llm-evaluation

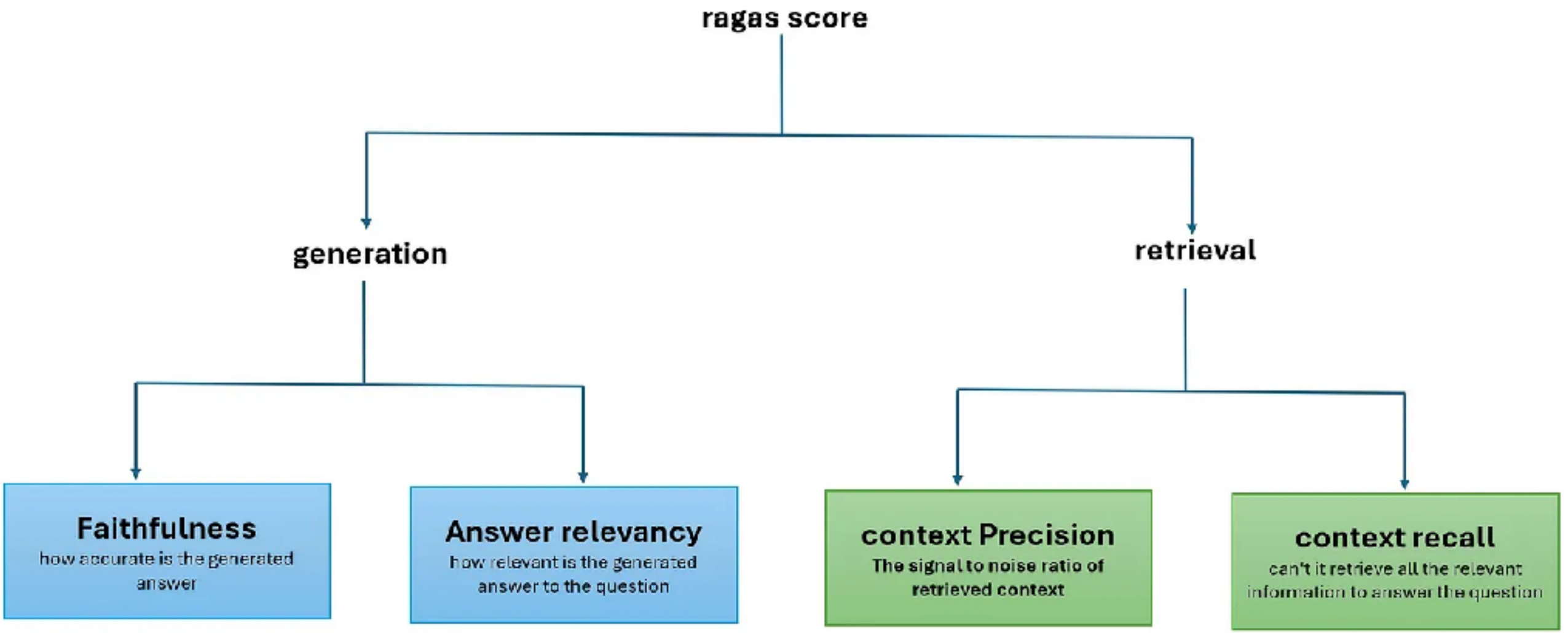
Evaluation in LLM



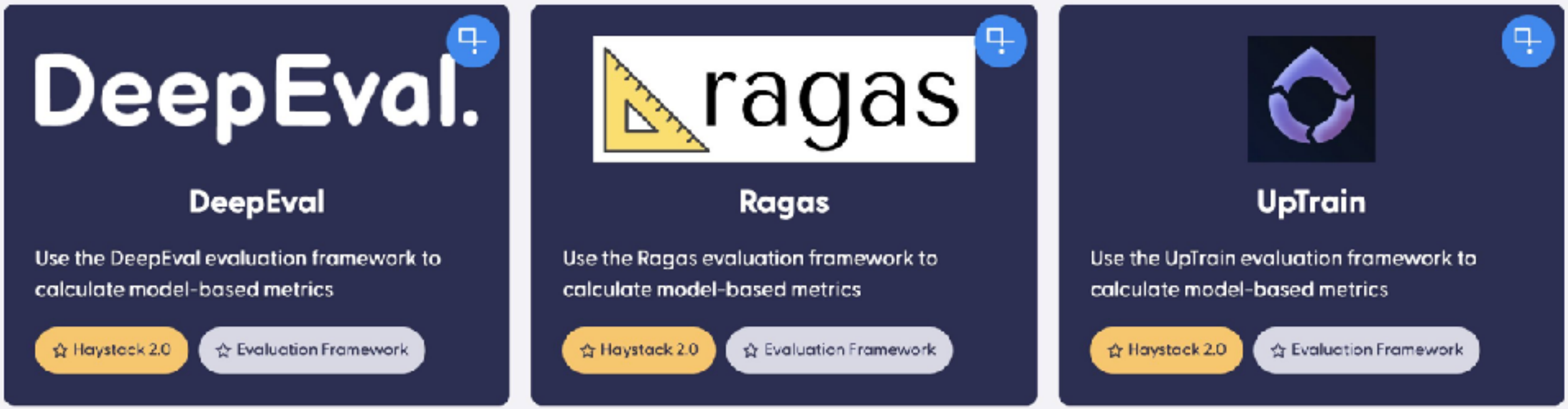


https://atamel.dev/posts/2025/01-14_rag_evaluation_deepeval/

Evaluation in LLM



https://dkaarthick.medium.com/ragas-for-rag-in-llms-a-comprehensive-guide-to-evaluation-metrics-3aca142d6e38



https://x.com/Haystack_AI/status/1760726816526925839/photo/1

Working with Claude Code

Claude Code

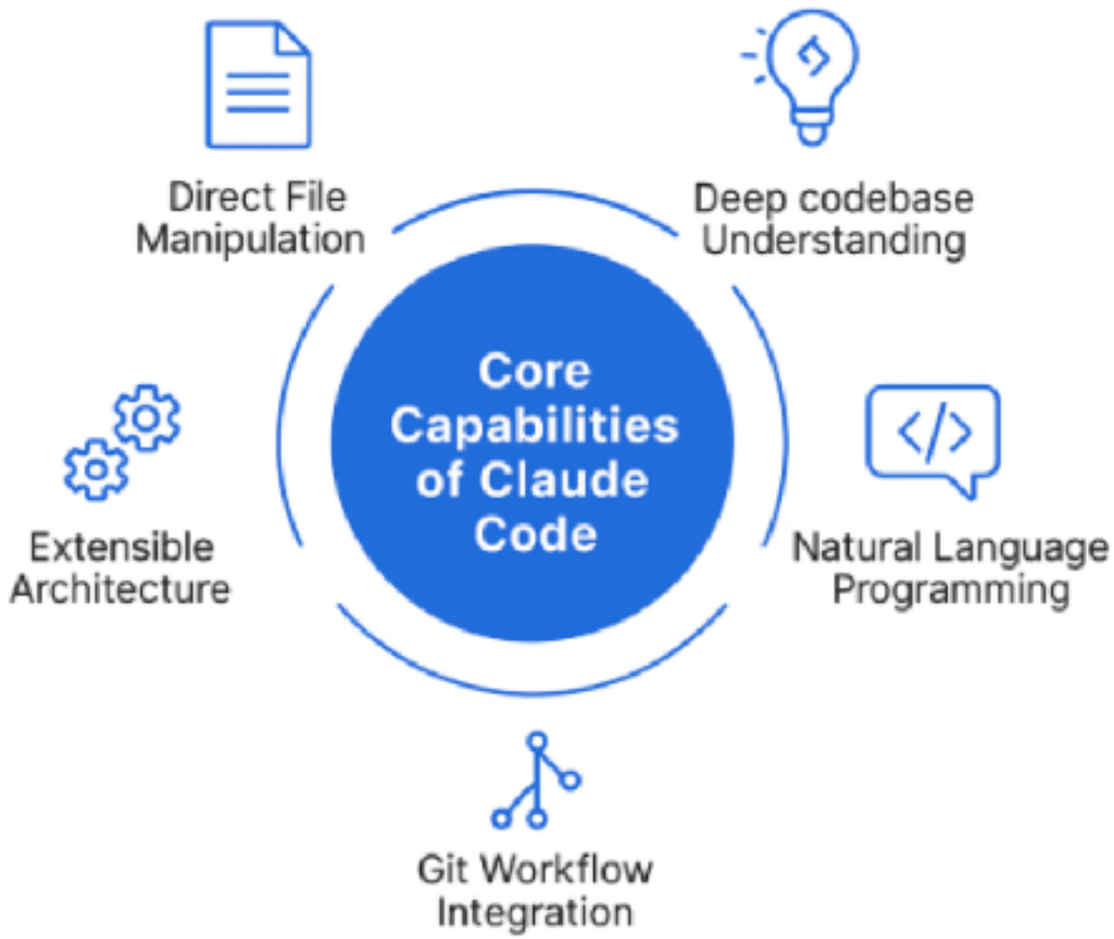
AI coding assistant by Anthropic
Supervised coding agent

https://www.anthropic.com/claude-code

Claude Code

Terminal-based, not IDE
Work with all tools
Fit into existing workflows
General purpose
Infinitely hackable

Capability of Claude Code



https://www.analyticsvidhya.com/blog/2025/07/what-is-claude-code/

Build-in tools in Claude Code

Bash, cmd
File search
File listing
File read and write
Web fetch and search
TODOs
Sub-agents

Working with MCP

https://www.youtube.com/watch?v=6eBSHbLKuN0

More context = better performance

CLAUDE.md
#create memory

MCP resources
(Memory)

Slash commands

Mention with
@filename

Take time to tune context for your team

Let’s start

$npm install -g @anthropic-ai/claude-code

$claude

https://docs.anthropic.com/en/docs/claude-code/common-workflows

Common workflows ?

Explore > plan > confirm > code > commit

Write tests > commit > code > iterate > commit

Write code > screenshot result > iterate

Example

Implement [google.png] then screenshot it with Puppeteer and iterate until it look like the google

Plan and create TODO list before coding !!

Update Todos
- □ Create HTML structure for Google homepage
- □ Implement CSS styling to match Google's design
- □ Add Google logo and search functionality
- □ Set up Puppeteer for screenshots
- □ Take initial screenshot and compare
- □ Iterate and refine styling based on comparison

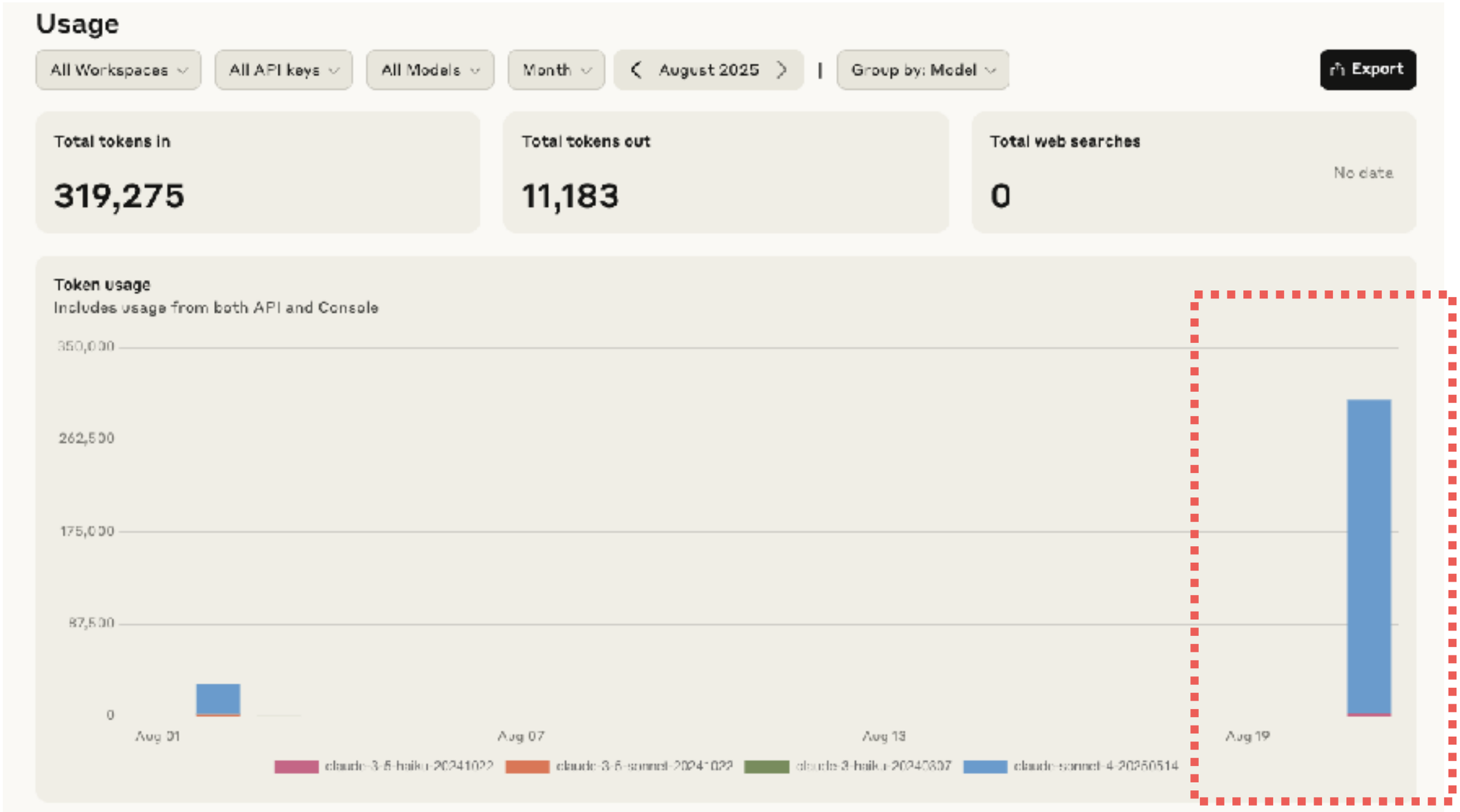
Check API Usage !!!

/cost

```
/cost
 └ Total cost:             $0.3486
   Total duration (API):   2m 26.7s
   Total duration (wall):  20m 0.4s
   Total code changes:     290 lines added, 0 lines removed
   Usage by model:
       claude-3-5-haiku:  6.2k input, 110 output, 0 cache read, 0 cache
write
          claude-sonnet:  84 input, 5.6k output, 558.4k cache read, 24.4k
cache write
```

https://docs.anthropic.com/en/docs/claude-code/costs

Check API Usage !!!



https://console.anthropic.com/usage

Claude Code Modes ?

Default mode	Auto mode	**Plan mode**
		Strategic thinking first

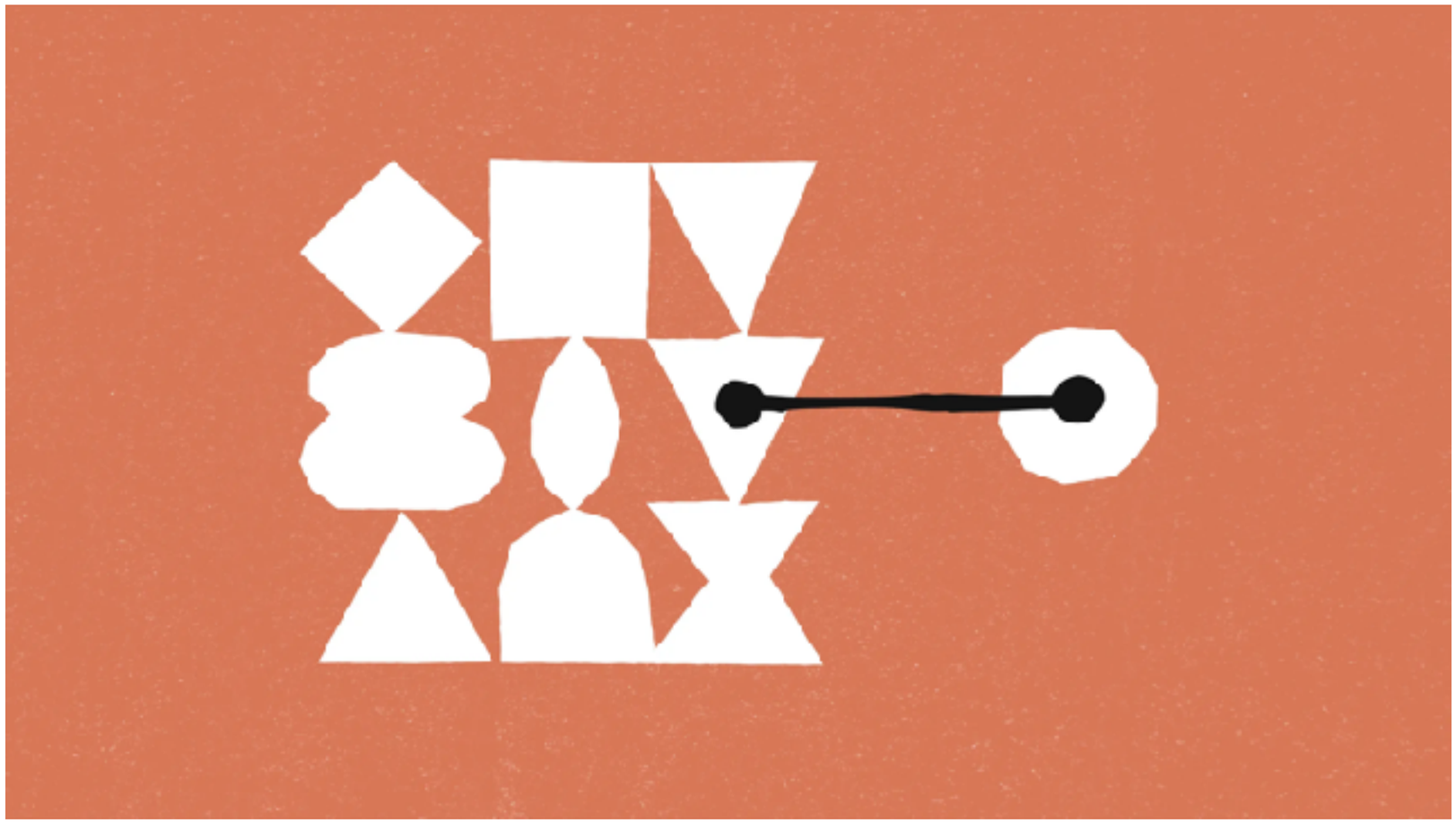
https://www.siddharthbharath.com/claude-code-the-complete-guide/

Workshop

Model Context Protocol (MCP)

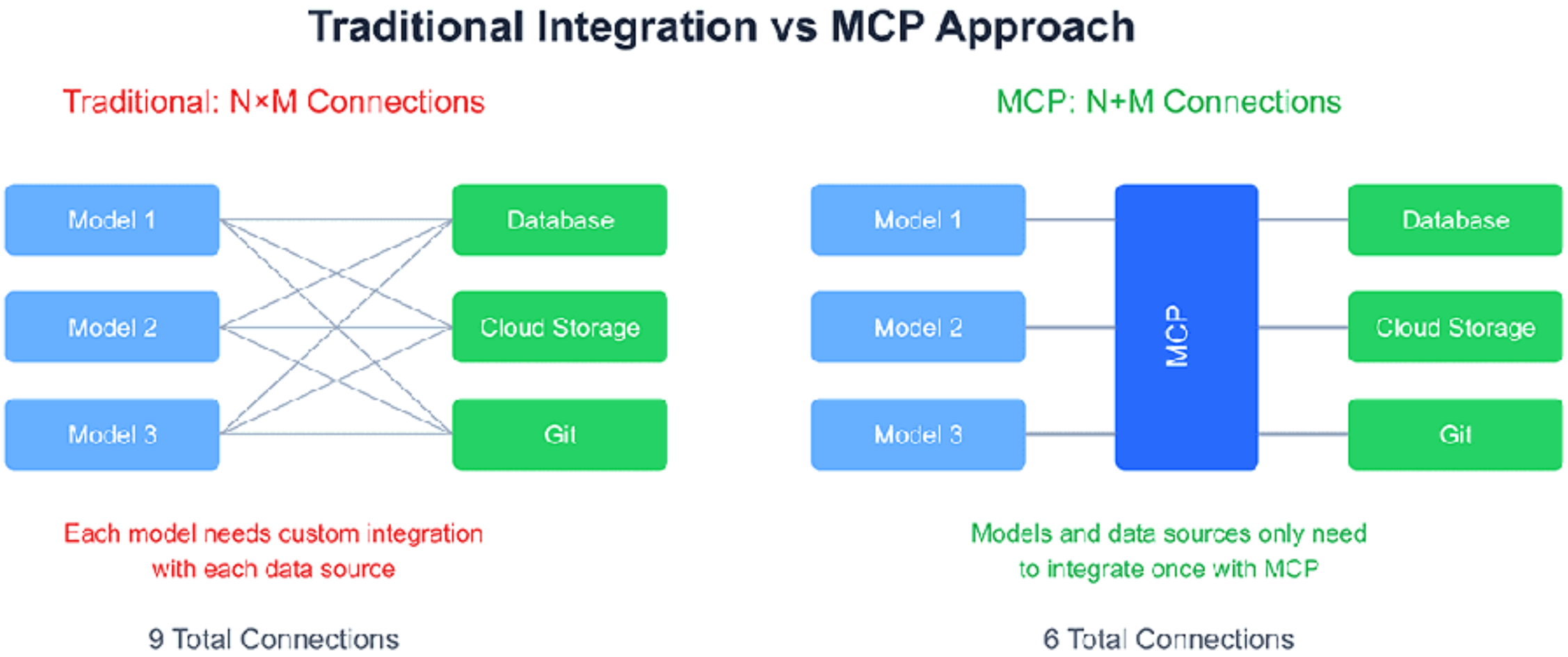
Model Context Protocol (MCP)

New standard for connecting AI assistants to system



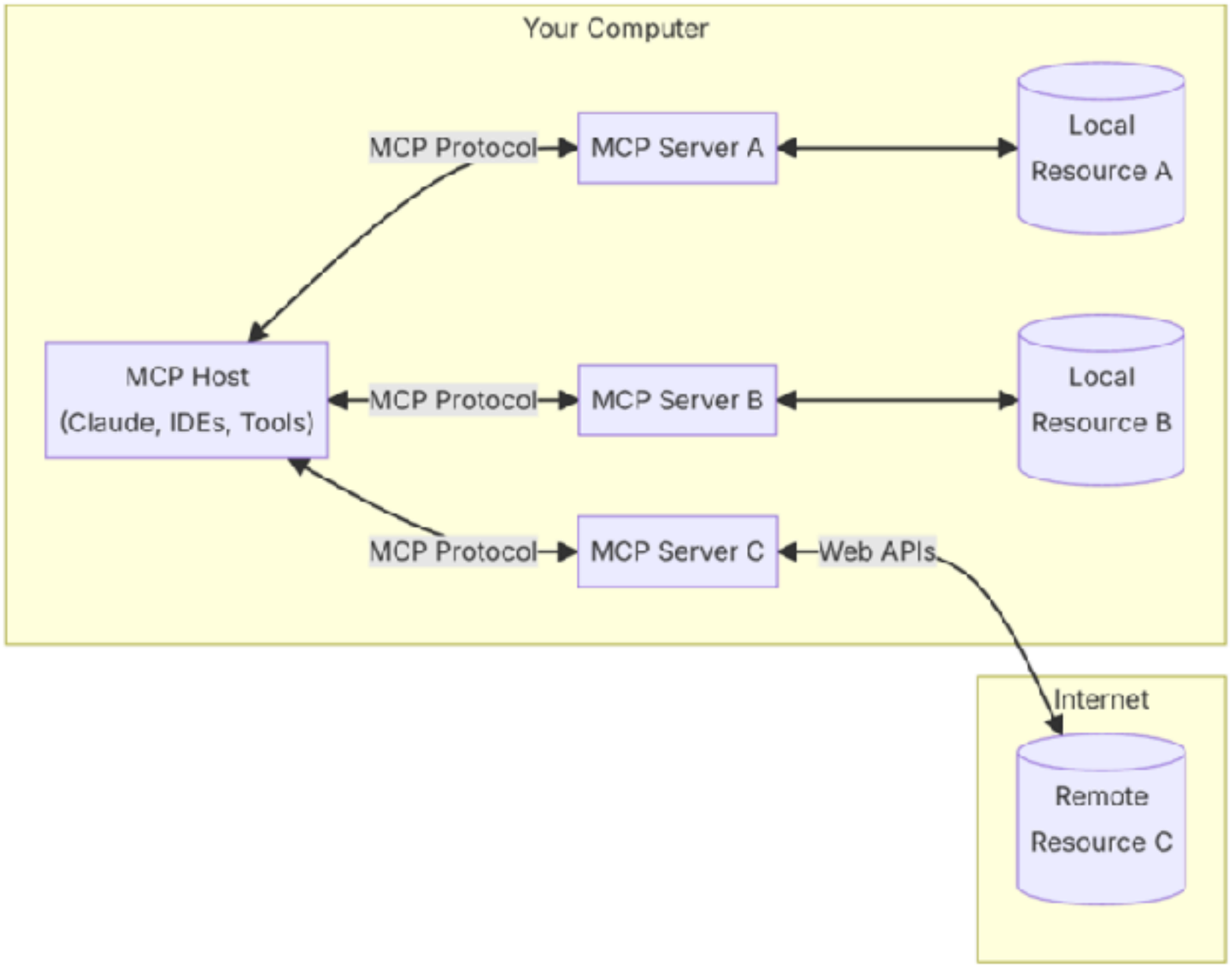
https://www.anthropic.com/news/model-context-protocol

Model Context Protocol (MCP)

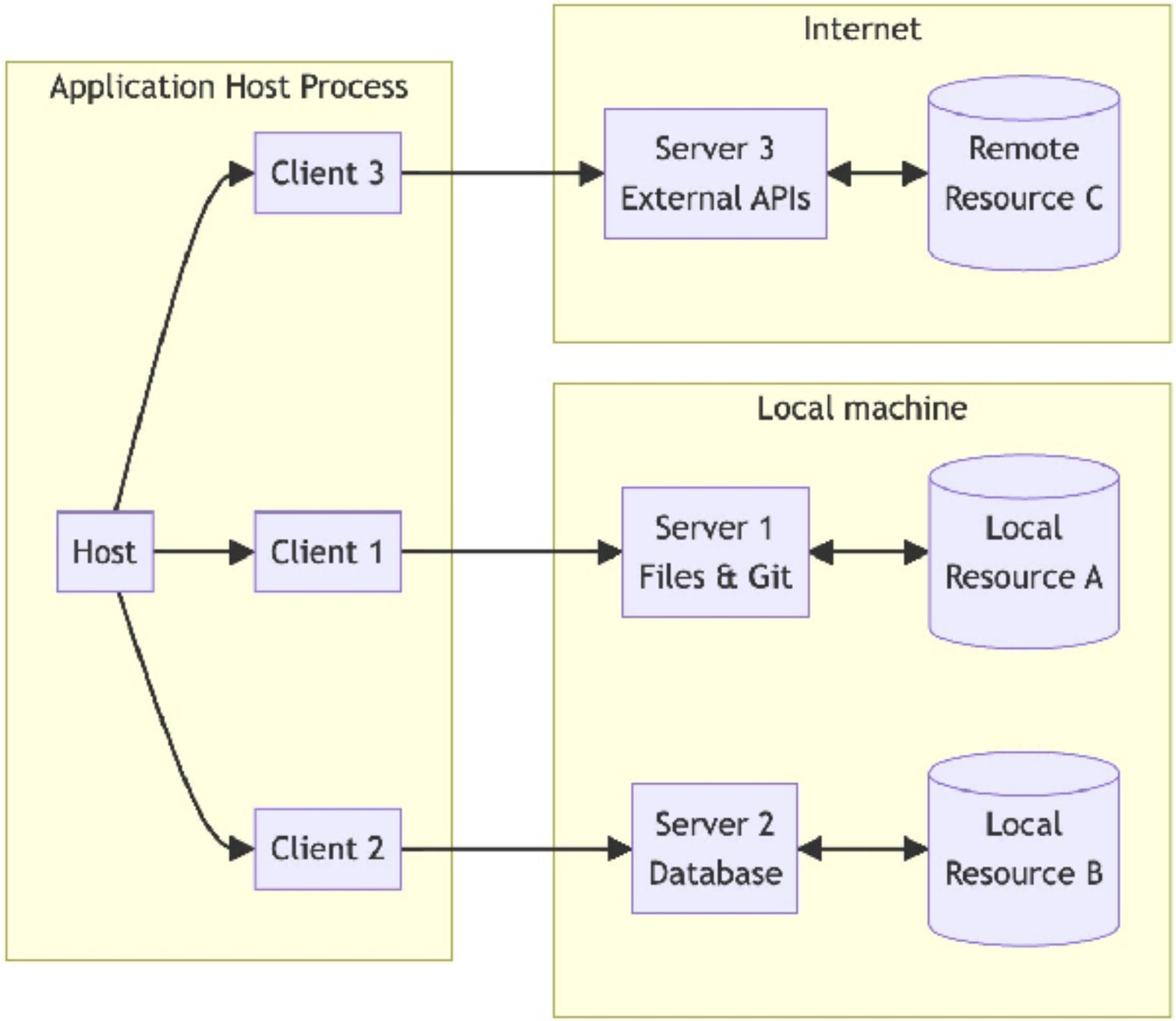


https://salesforcedevops.net/index.php/2024/11/29/anthropics-model-context-protocol/

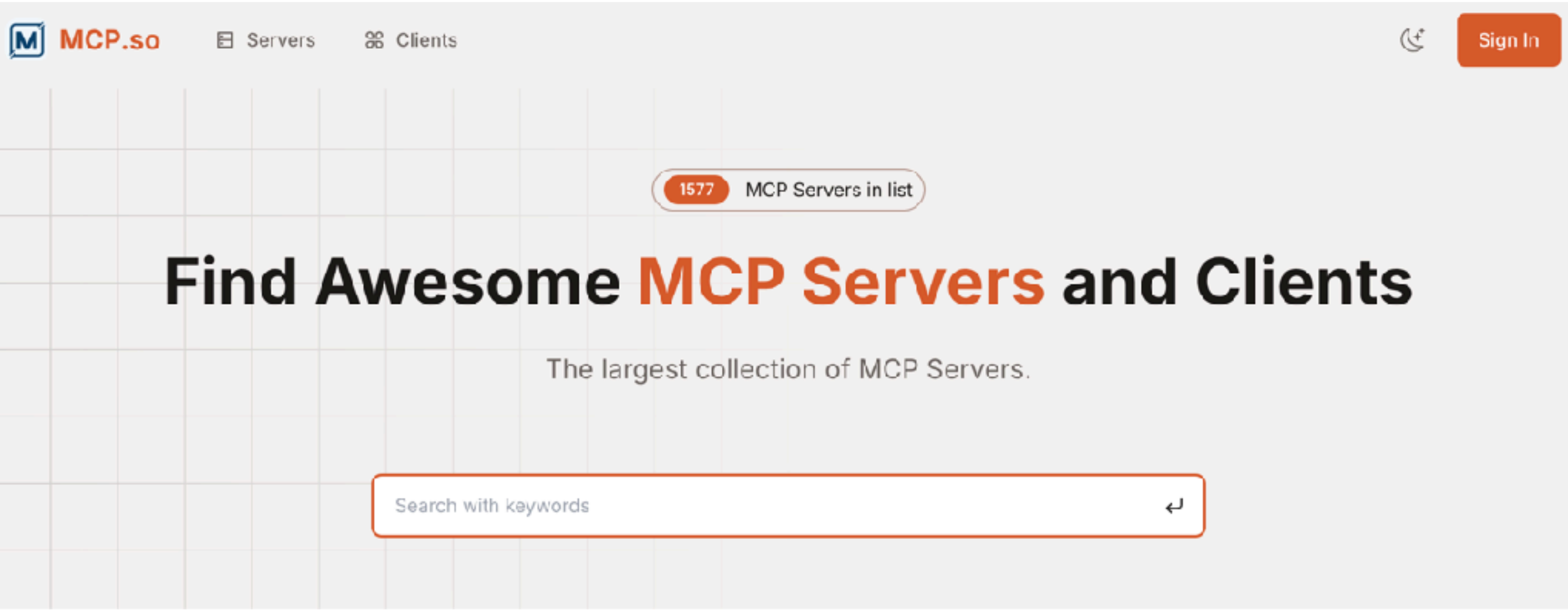
Model Context Protocol (MCP)



Model Context Protocol (MCP)

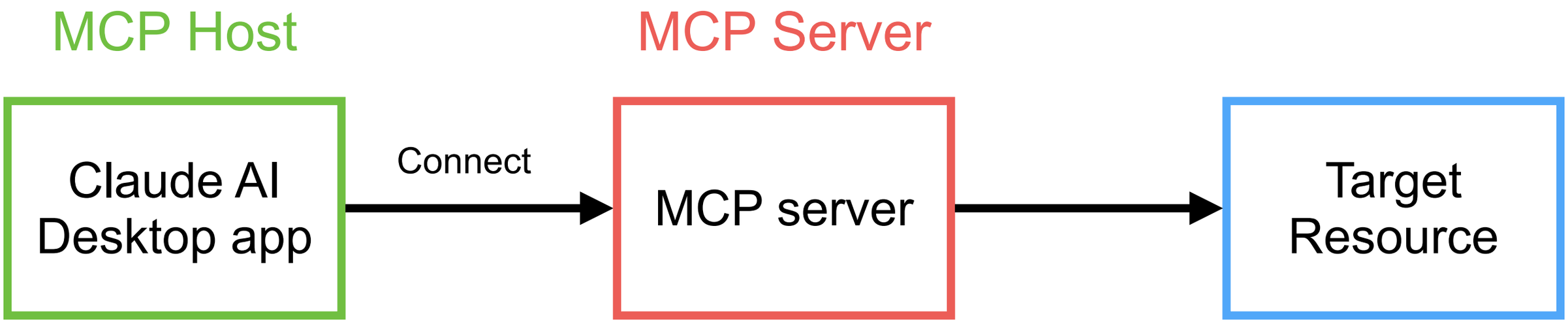


List of MCP Servers



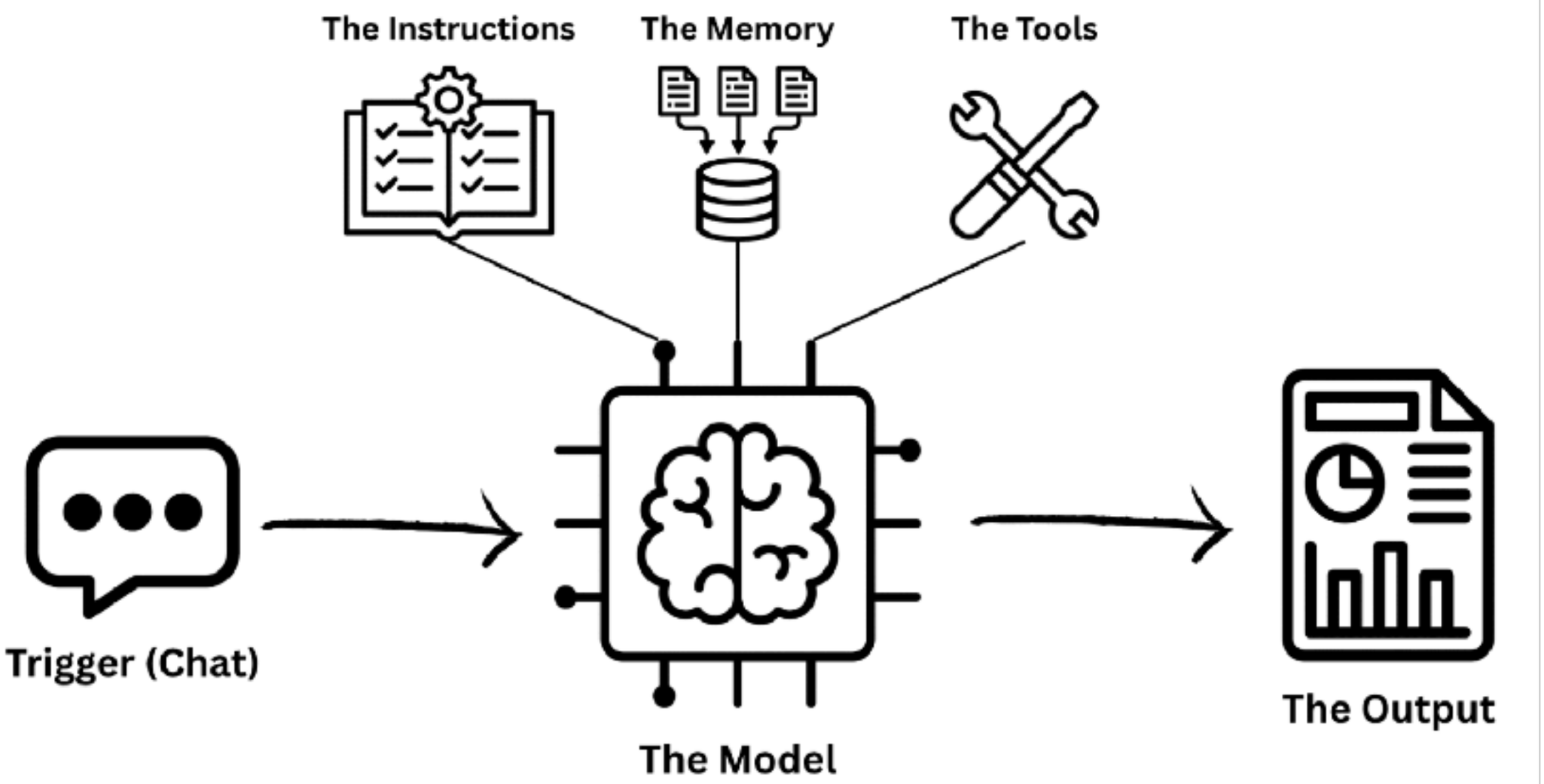
https://mcp.so/

Example MCP by Anthropic



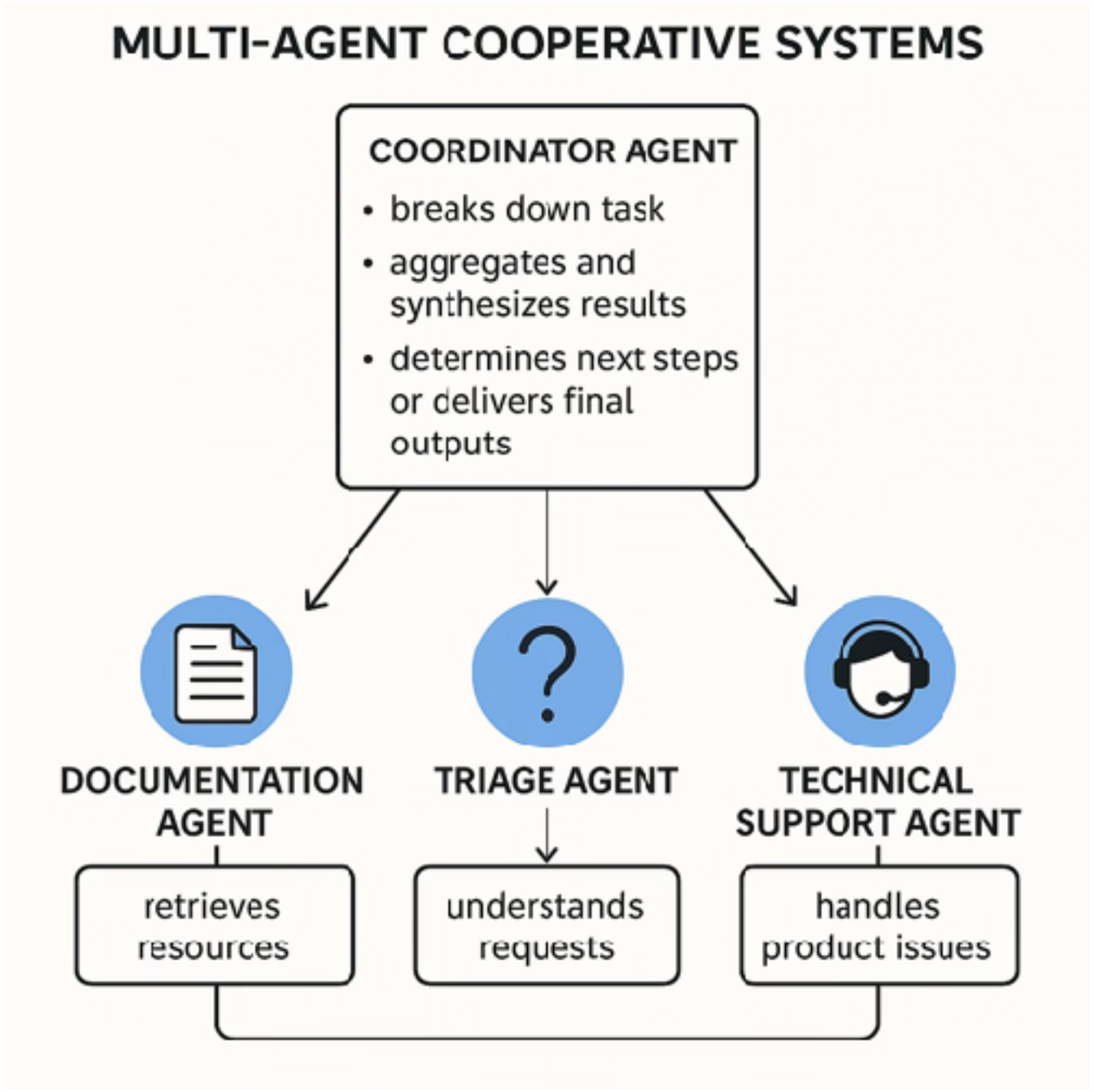
https://www.somkiat.cc/model-context-protocol/

AI Agent



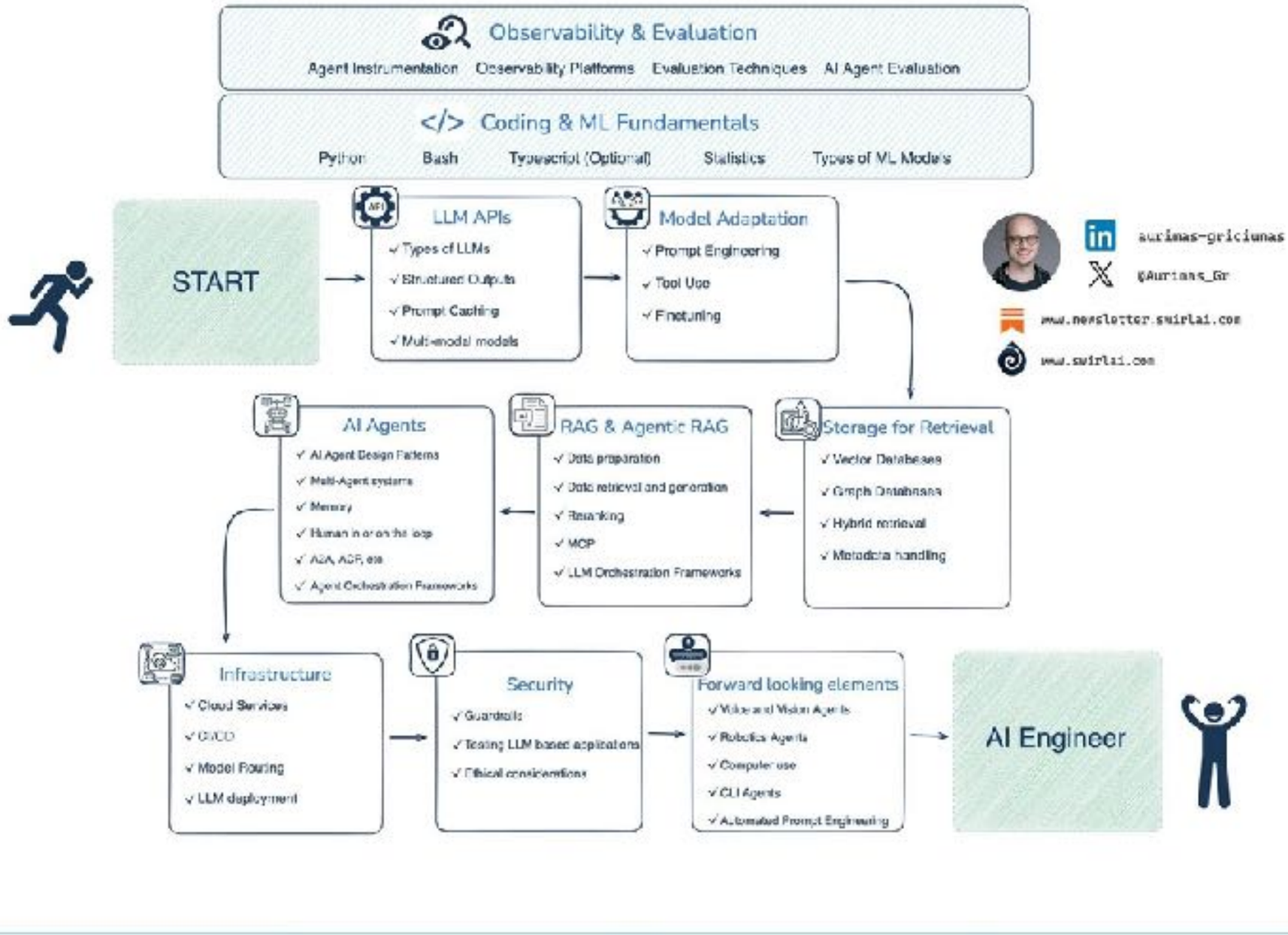
https://www.siddharthbharath.com/ultimate-guide-ai-agents/

Multiple AI Agent



https://www.siddharthbharath.com/ultimate-guide-ai-agents/

AI Engineering Learning Roadmap



Q/A