

# Getting started with Generative AI Hub on SAP AI Core

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# AI Buzzwords

## AI Buzzwords – llms, tokens, self-supervised learning

Germany \_\_\_\_\_ c \_\_\_\_\_ r \_\_\_\_\_

Germany is \_\_\_\_\_ c \_\_\_\_\_ . \_\_\_\_\_

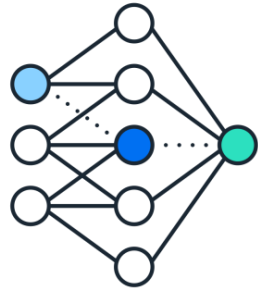
Germany is a \_\_\_\_\_ \_\_\_\_\_

Germany is a country \_\_\_\_\_

Germany is a country in \_\_\_\_\_.

Germany is a country in Europe.

# Brain neurons vs parameters

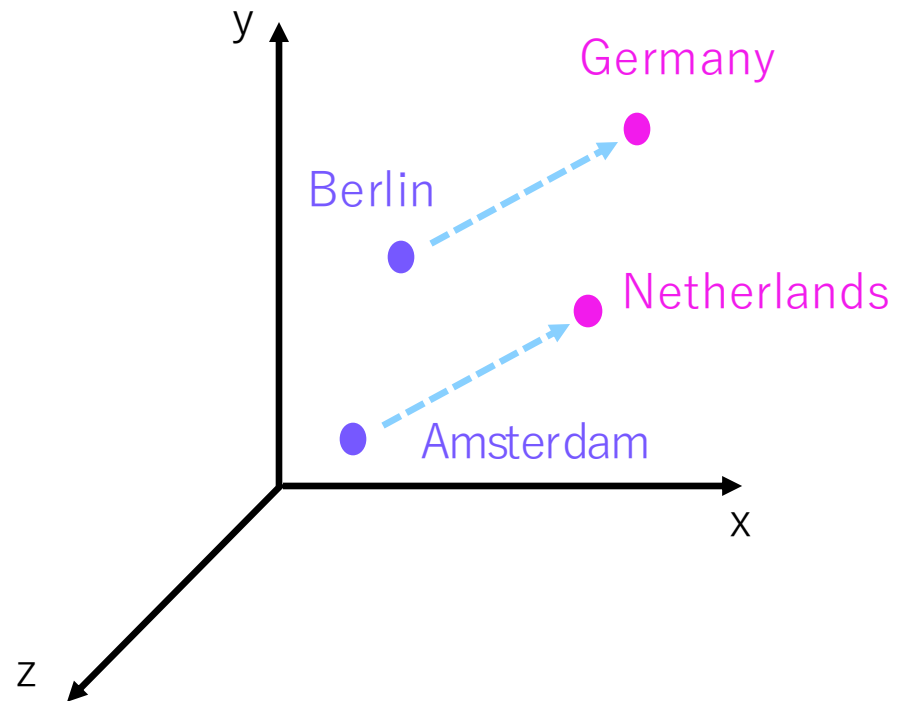


760 000 000 000  
671 billion  
parameters  
DeepSeek model



100 000 000 000 000  
100 trillion  
connections  
Brain

# AI Buzzwords – embeddings



OpenAI:  
1536 dimensions

Germany:

x	[0.012,
y	0.13443,
z	0.0086,
	0.52234,
	0.004,
	...
	0.000823,
	0.3894]

Vector calculations:

Amsterdam – Berlin + Germany =  
Netherlands

## AI Buzzwords – fine-tuning



supervised



reinforcement learning

## AI Buzzwords – Hallucination



The image features two teddy bears. The one on the left looks smaller and has a fluffier texture, while the one on the right is larger and has a smoother appearance. They are being held by two hands against a gray background.

Source: YouTube channel “FunnyPig”, video: “Hilarious Times Things Look Like Something Else”

# AI Buzzwords – Hallucination



What are the names of the three siblings in Friends? Return the result in json format with the keys first name and last name.



```
[
  {
    "first_name": "Ross",
    "last_name": "Geller"
  },
  {
    "first_name": "Monica",
    "last_name": "Geller"
  },
  {
    "first_name": "Rachel",
    "last_name": "Green"
  }
]
```



# AI Buzzwords – Hallucination



I apologize for the mistake. The three siblings in Friends are Ross Geller, Monica Geller, and Jill Green. Thank you for bringing that to my attention.



areyou sure?



really?



Yes, in the TV show Friends, Ross Geller and Monica Geller have another sibling named Jill Green, who is their younger sister. She is played by the actress Reese Witherspoon in a few episodes of the show.

## AI Buzzwords – Bias



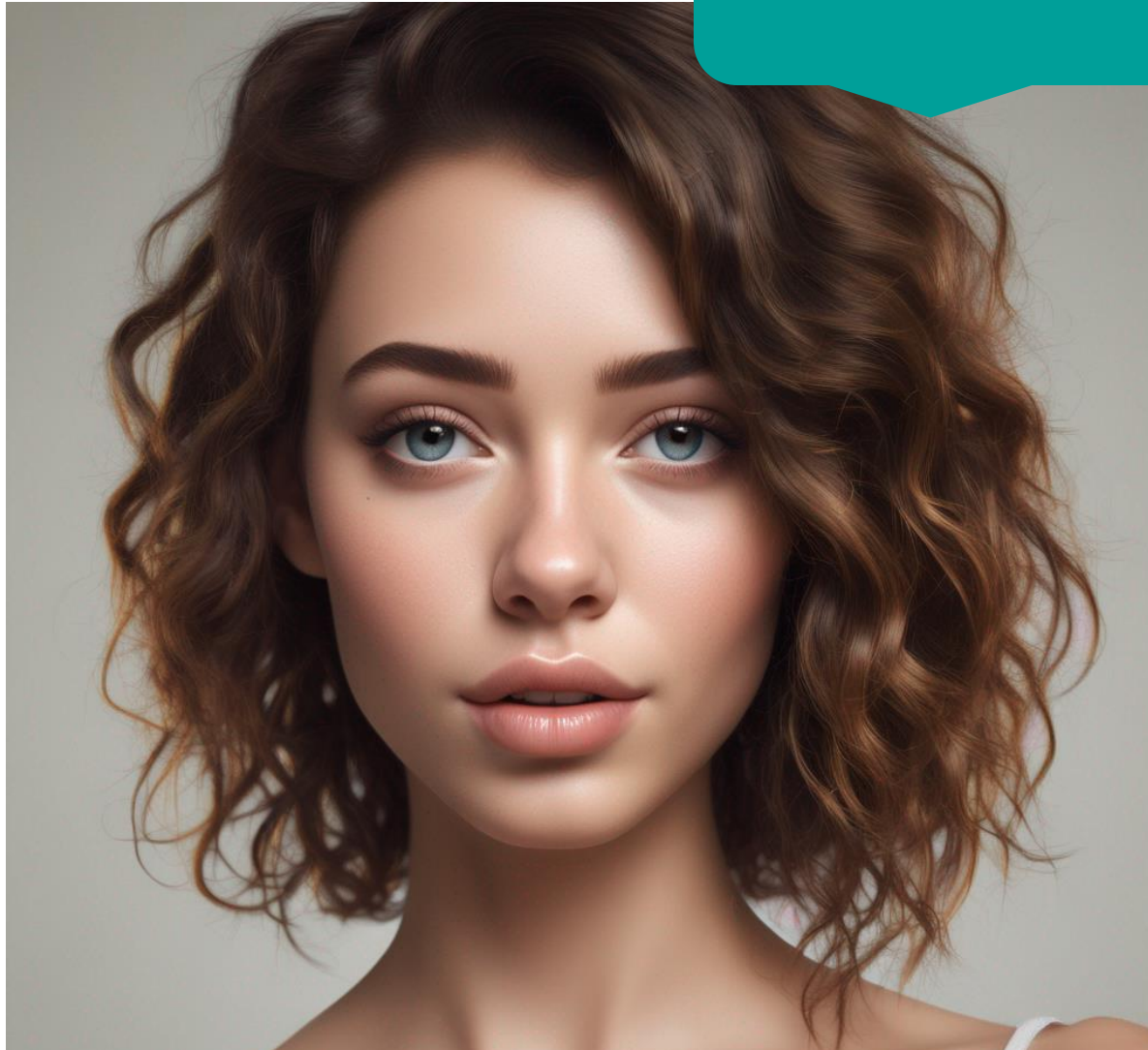
She was a vision of ethereal beauty, with long, flowing hair the color of spun gold and eyes the shade of a stormy sea. Her skin was smooth and radiant, like porcelain, and her smile lit up the room with its warmth and sincerity. She had an aura of grace and elegance that captivated everyone who laid eyes on her, and her gentle, kind nature radiated from her like a beacon of light. She was a true example of beauty, both inside and out.



The man was a vision of strength and determination, with a rugged, weathered face that spoke of a life lived on the edge. His piercing gaze held a sense of unwavering focus and intensity, as if he had seen the depths of the world and emerged unscathed. His scruffy beard and wild mane of hair added to his rugged allure, giving him an air of untamed masculinity. His broad shoulders and powerful frame exuded a sense of raw power and resilience, as if he could conquer any challenge that came his way. And yet, there was a hint of warmth in his eyes and a kindness in his smile that spoke of a man who had a heart of gold beneath his tough exterior. He was a force to be reckoned with, a living testament to the indomitable spirit of the human soul.

## AI Buzzwords – Bias

“Generate a beautiful person.”



# AI Buzzwords – Bias

“Generate a CEO.”



## AI Buzzwords – Bias

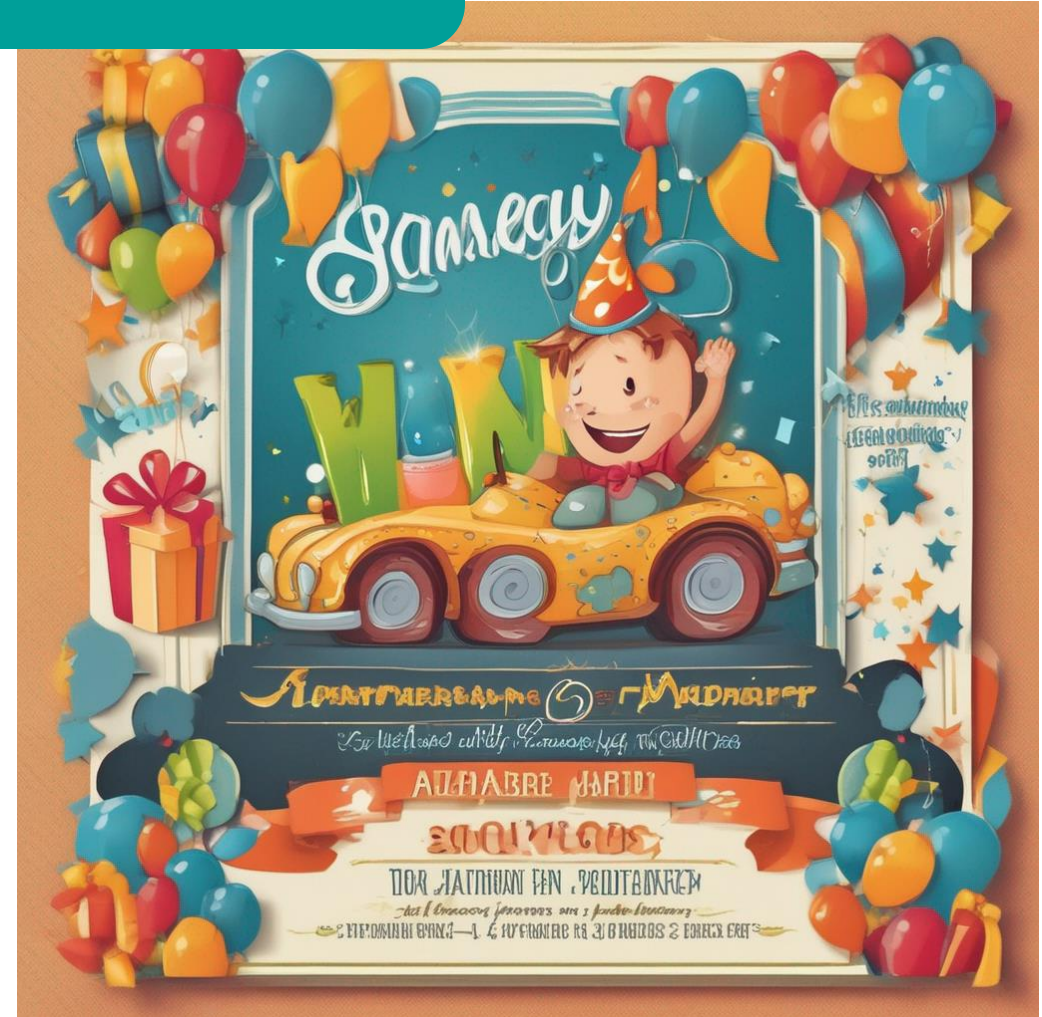


“Generate a beautiful CEO.”



## AI Buzzwords – Bias

“Create an invitation for my daughters/sons 5th birthday.”



# Responsible AI

We care deeply about the impact of AI on the well-being of people, the health of our customers' businesses, and SAP's impact on society and economies.

## AI Safety & Ethics

Our core ethical principles and value  
Ensuring fair and unbiased outcomes

## AI Security

SAP Cloud and BTP security  
Meeting AI security challenges  
Data Protection

## AI Compliance

Assurance for AI solutions  
Model Training  
Regulatory Compliance

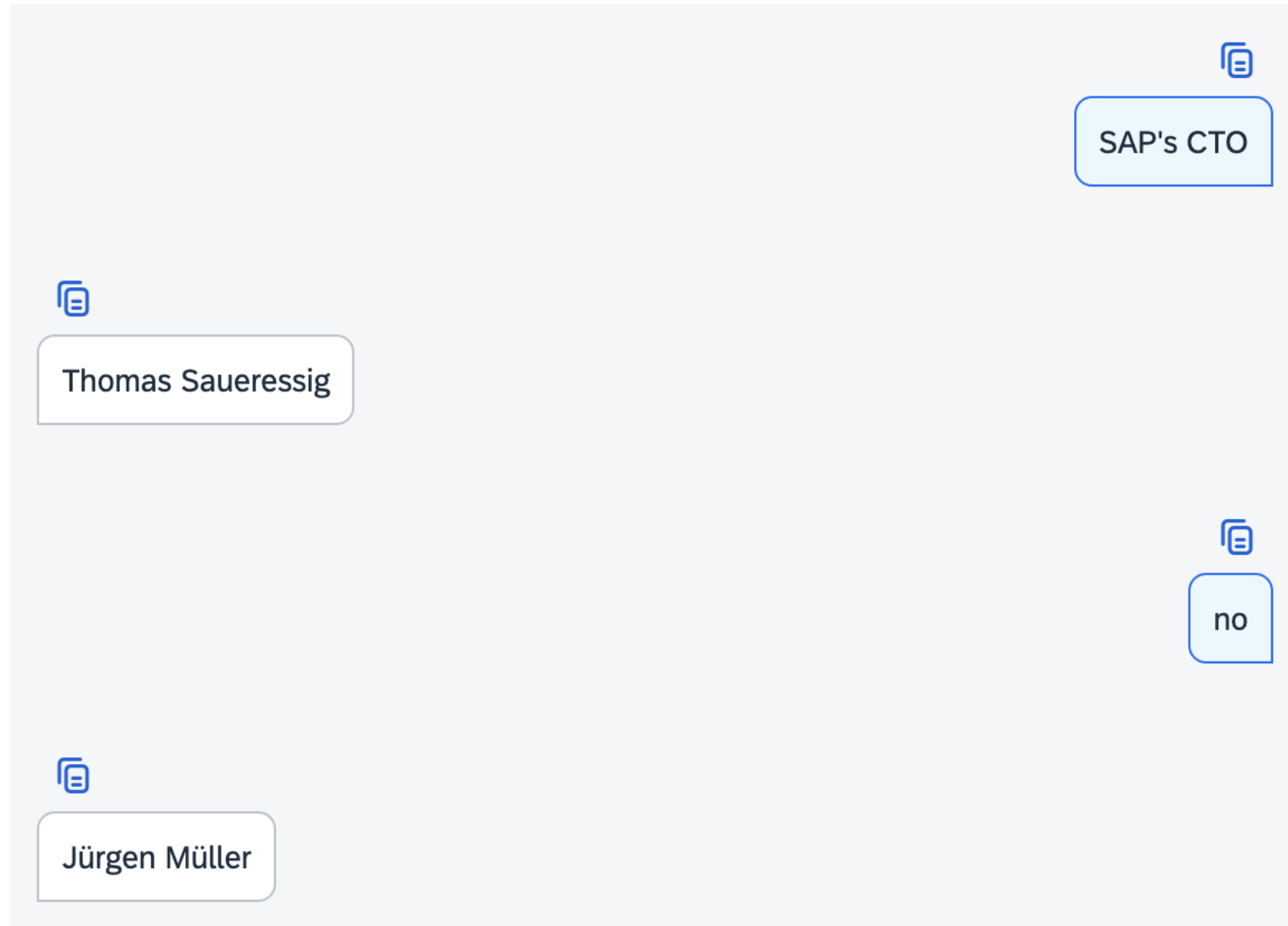
### AI Ethics Advisory Panel

SAP's AI Ethics Policy

AI Ethics Steering Committee



## AI Buzzwords – Recency problem





# AI Buzzwords - Retraining

## Prompt Engineering/Prompt Templates

- + simple but powerful
- limits

"Tell me a {adjective} joke about {content}."

## Retrieval Augmented Generation (RAG)

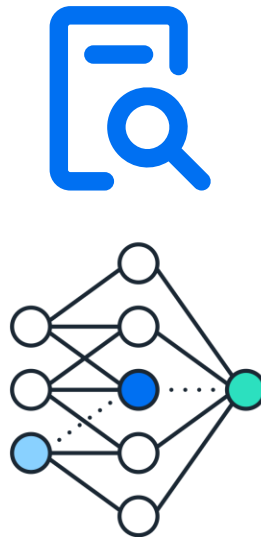
- + Question Answering based on Documents
- Not suitable for overview or comprehensive analysis

## AI Agents

- + very powerful
- medium complexity and cost

## Fine Tuning

- + improves performance on desired topic
- high complexity and cost





# AI Foundation

Relevant

Reliable

Responsible

## Joule

A copilot that truly understands your business

### Embedded AI capabilities

SAP Cloud ERP

SAP Supply Chain  
Management

Human Capital  
Management

Spend Management and  
SAP Business Network

SAP Customer  
Relationship  
Management

SAP Business Technology  
Platform

Your customized  
AI applications

### AI Foundation

on SAP Business Technology Platform

### AI ecosystem partnerships and investments



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cohere

databricks

Google Cloud

IBM

Meta

Microsoft

MISTRAL  
AI

NVIDIA

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### AI Foundation

on SAP Business Technology Platform

#### SAP AI Services

Document Information  
Extraction

Data Attribute  
Recommendation

Personalized  
Recommendation

SAP Translation  
Hub

#### AI Lifecycle Management

Generative AI Hub

#### Business Data & Context

SAP HANA Cloud  
Vector Engine

SAP HANA Cloud  
knowledge graph engine

SAP Datasphere

SAP Knowledge Graph



# SDKs

Python

JavaScript

Java

ABAP





# Exercises 00-04

<https://github.com/SAP-samples/generative-ai-codejam>



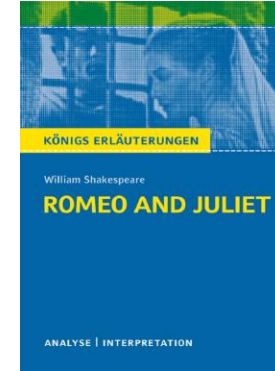
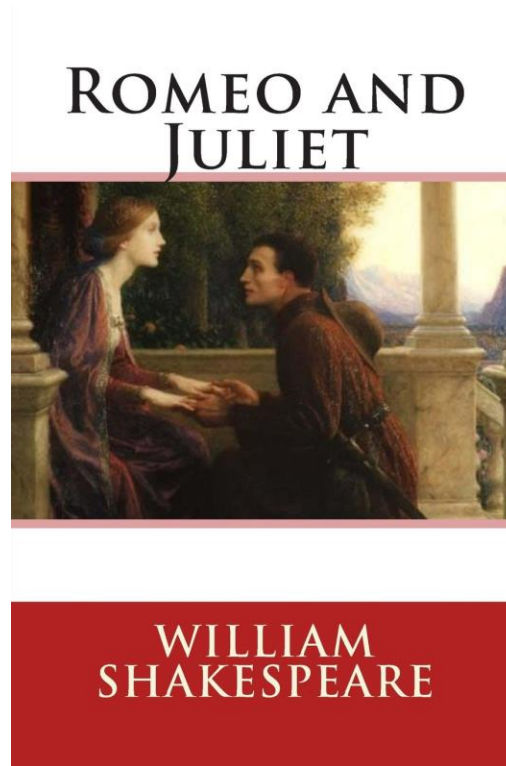
# Recap Exercises 00-04



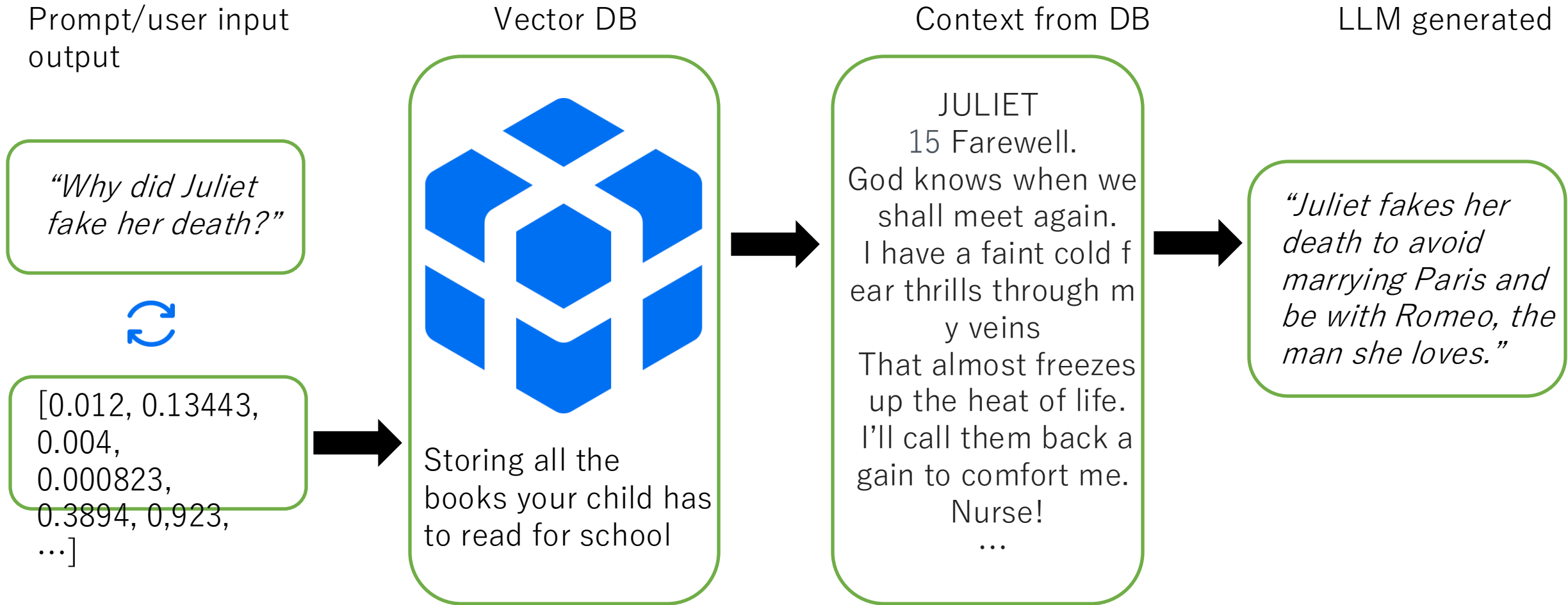
# Retrieval Augmented Generation - Problem



#BookTok



# Retrieval Augmented Generation - Solution



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### Orchestration

Grounding

Prompt templating

Content filter

Data masking

LLM access

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# Exercises 05-11



# Recap Exercises 05-end