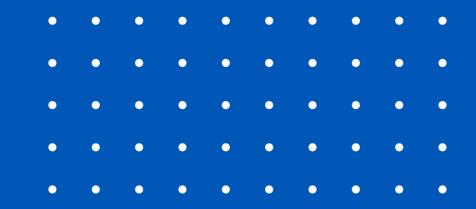
# **TECHIMPACT®**

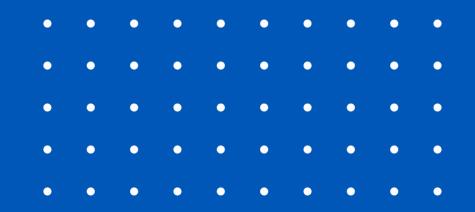


# Prompt Engineering with Copilot

**Ryan Harrington** 

#### **TECHIMPACT®**





#### **Ryan Harrington**

#### Director, Data Lab

ryanh@techimpact.org



What is generative AI? Workshop / Demo Considerations



## What is generative AI?



## Key components



Internet Scale Data



Content Creation



Variability & Creativity



Various Modalities



#### copilot.microsoft.com





# Follow along with the prompts here:



bit.ly/
tf\_prompt\_workshop

## Large Language Model



### Large Knowledge Model



### Humans trained the models. Consider potential bias.



### Use it to...

write a first draft refine language summarize ideate

extract or classify data

automate communication channels

localize content

generate code

augment your work

...and many, many more



#### Microsoft Copilot

For use on the web

Free with Microsoft 365 Business Premium or higher SKU

#### Microsoft 365 Copilot

For use in your Microsoft 365 apps and the web

\$30/user/month



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Chats

Sign in



Your everyday AI companion



Create a realistic image of a flamingo standing in the arctic ocean



Compose an electronic song about camping Suno Terms | Privacy



Compose a country song about me and my best friend Suno Terms | Privacy

Copilot uses Al. Check for mistakes. Terms Privacy FAQs (Try Copilot Pro

 $\rightarrow$  Sign in to ask more questions and have longer conversations



Ask me anything...

🔁 🖓 ⊳



Sign in

What's on your mind? Write a detailed prompt to collaborate with Copilot. Use Shift+Return to submit a message. Ē **P** Ŷ Copilot will create your content here Preview Copilot uses Al. Check for mistakes. Terms | Privacy | FAQs

Chats

 $\equiv$ 

Sign in



Your everyday AI companion



Create a realistic image of a flamingo standing in the arctic ocean



Compose an electronic song about camping Suno Terms | Privacy



Compose a country song about me and my best friend Suno Terms | Privacy

4,000 character limit

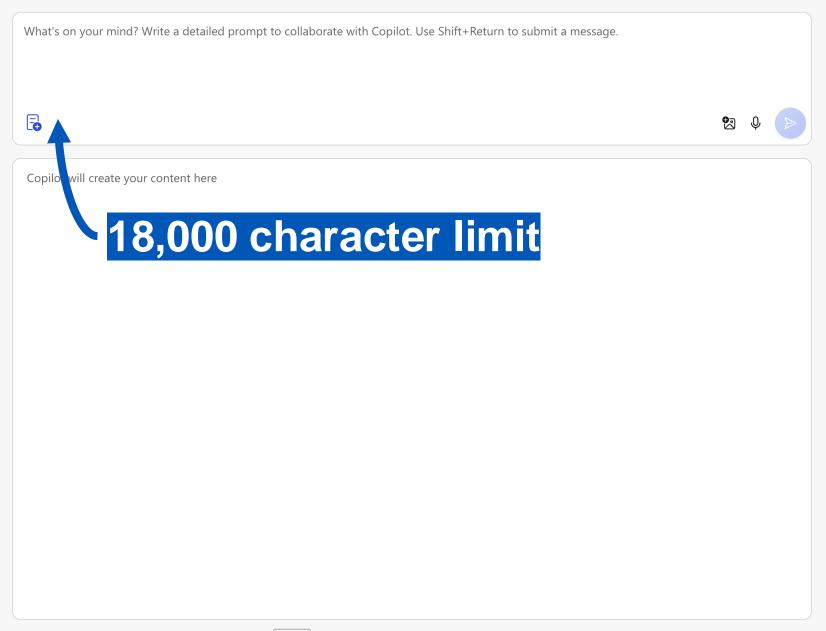
 $\rightarrow$  Sign in to ask more questions and have longer conversations

Ask me anything...

🔁 🌵 ⊳



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### Writing a prompt

#### *"English is the new programming language"* Jensen Huang (CEO), Nvidia

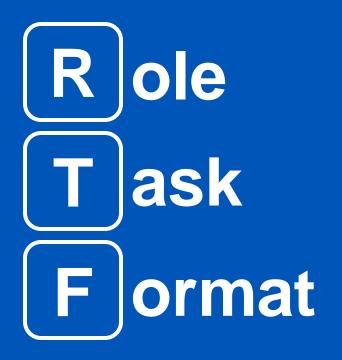


## What is a prompt?

A "prompt" in the context of LLMs refers to the **input or instruction** given to the AI model that guides it to generate a response.

- It can be a question, statement, or command that directs the AI on what kind of information or content to produce.
- The **quality and clarity** of the prompt significantly influence the relevance and accuracy of the Al's output.







## Scenario #1

Write a plan for new student orientation for my IT focused workforce development program.



## Scenario #1

Write a plan for new student orientation for my IT focused workforce development program.

Update

# Scenario #1 | Role

Write a plan for new student orientation for my IT focused workforce development program.

Update



# Scenario #1 | Task

Write a plan for new student orientation for my IT focused workforce development program.

Update



# Scenario #1 | Format

Write a plan for new student orientation for my IT focused workforce development program.

Update







### Scenario #2

Write a plan for organizing a community day of service in Austin, TX.



## Scenario #2

Write a plan for organizing a community day of service in Austin, TX.

Role: You are a community organizer at a nonprofit focused on building safe communities.

Updated

Instructions: Write a plan for how to organize a community day of service in Austin, Texas.

Consider the following steps to complete the task: 1. First compile all of the possible tasks an organizer might



# Scenario #2 | Role

Write a plan for organizing a community day of service in Austin, TX.

Role: You are a community organizer at a nonprofit focused on building safe communities.

Updated

Instructions: Write a plan for how to organize a community day of service in Austin, Texas.

Consider the following steps to complete the task: 1. First compile all of the possible tasks an organizer might



## Scenario #2 | Instructions

Write a plan for organizing a community day of service in Austin, TX.

Role: You are a community organizer at a nonprofit focused on building safe communities.

Jpdated

Instructions: Write a plan for how to organize a community day of service in Austin, Texas.

Consider the following steps to complete the task: 1. First compile all of the possible tasks an organizer might



# Scenario #2 | Steps

Updated

Write a plan for organizing a community day of service in Austin, TX.

Consider the following steps to complete the task: 1. First compile all of the possible tasks an organizer might need to consider.

2. Prioritize the tasks based upon urgency.

3. Discuss the skillset needed to complete each task.

Goal: The goal is to give a comprehensive list of everything that should be included to organize a community day of



# Scenario #2 | End Goal

Write a plan for organizing a community day of service in Austin, TX.

Goal: The goal is to give a comprehensive list of everything that should be included to organize a community day of service.

Updated

Constraints: Make the actions clear for a board member of the organization.



## Scenario #2 | Narrow

Write a plan for organizing a community day of service in Austin, TX.

Goal: The goal is to give a comprehensive list of everything that should be included to organize a community day of service.

Updated

Constraints: Make the actions clear for a board member of the organization.



R ole **O**bjective Details **E** xamples S ense check



### Scenario #3

Write 10 blog posts titles focused on measurement and evaluation best practices.

**TECHIMPACT®** 

## Scenario #3

Write 10 blog posts titles focused on measurement andevaluation best practices.

Role: You are a marketing specialist at a nonprofit organization

Updated

Objective: You are brainstorming potential blog post titles that will lead to high engagement for nonprofit executives utilizing LinkedIn. The blog post will focus on measurement and evaluation best practices for nonprofit programs. Generate 10 blog post titles.



# Scenario #3 | Role

Write 10 blog posts titles focused on measurement and evaluation best practices.

Role: You are a marketing specialist at a nonprofit organization

Updated

Objective: You are brainstorming potential blog post titles that will lead to high engagement for nonprofit executives utilizing LinkedIn. The blog post will focus on measurement and evaluation best practices for nonprofit programs. Generate 10 blog post titles.



## Scenario #3 | Objective

Write 10 blog posts titles focused on measurement and evaluation best practices.

Role: You are a marketing specialist at a nonprofit organization

Updated

Objective: You are brainstorming potential blog post titles that will lead to high engagement for nonprofit executives utilizing LinkedIn. The blog post will focus on measurement and evaluation best practices for nonprofit programs. Generate 10 blog post titles.



# Scenario #3 | Details

Write 10 blog posts titles focused on measurement andevaluation best practices.

Details: Each headline should be no longer than 100 characters. Do not utilize emojis.

Updated

#### Examples:

- "Measure what matters: keeping your nonprofit programs on track"
- "7 measurement techniques to supercharge your grant writing practice"



## Scenario #3 | Examples

Write 10 blog posts titles focused on measurement andevaluation best practices.

#### Examples:

Updated

- "Measure what matters: keeping your nonprofit programs on track"
- "7 measurement techniques to supercharge your grant writing practice"
- "Impact metrics: Sustainable data decision making for purpose driven organizations"



## Scenario #3 | Sense Check

Write 10 blog posts titles focused on measurement andevaluation best practices.

# Do you understand the objective and the guidelines for this task?

Updated



# Chain of Thought



### Scenario #4

Determine how many windows are on skyscrapers in Austin, Texas.



## Scenario #4

Determine how many windows are on skyscrapers in Austin, Texas.

Determine how many windows are on skyscrapers in Austin, Texas.

Updated

Let's think step by step.



## Scenario #4 | Chain of Thought

Determine how many windows are on skyscrapers in Austin, Texas.

Determine how many windows are on skyscrapers in Austin, Texas.

Updated

Let's think step by step.



### **Strategies to Improve Prompts**

- 1. Consider using frameworks to guide your prompt writing
- 2. Include details in your query to get more relevant answers
- 3. Ask the model to adopt a persona
- 4. Specify the desired length of the output
- 5. Specify the steps required to complete a task
- 6. Provide examples



## Try them out!

- 1. Consider using frameworks to guide your prompt writing
- 2. Include details in your query to get more relevant answers
- 3. Ask the model to adopt a persona
- 4. Specify the desired length of the output
- 5. Specify the steps required to complete a task
- 6. Provide examples



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Web



(+) New chat ····

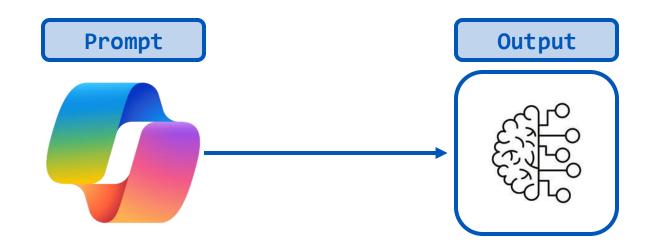


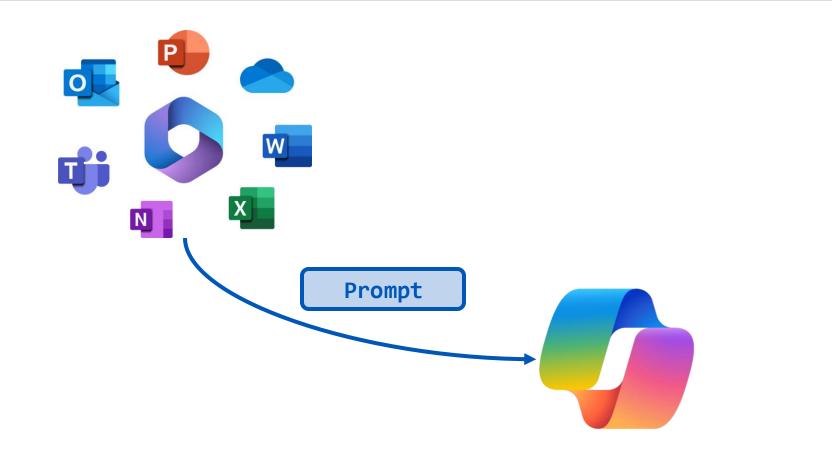
For Microsoft 365

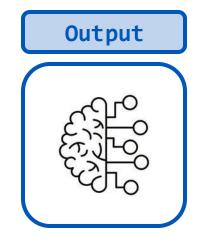
🗉 Stay informed	$\not i$ Find the right questions	Understand the main points
What's the latest from person , organized by emails, chats, and files?	Suggest common questions that can be asked to get a retrospective started with my colleagues.	Give me a bulleted list of key points from file
🔊 Jump-start a draft	Track your tasks	Check Teams mentions
Create an FAQ based on doc	What should be on my radar from emails last week?	Summarize Teams messages where I was @mentioned this week.

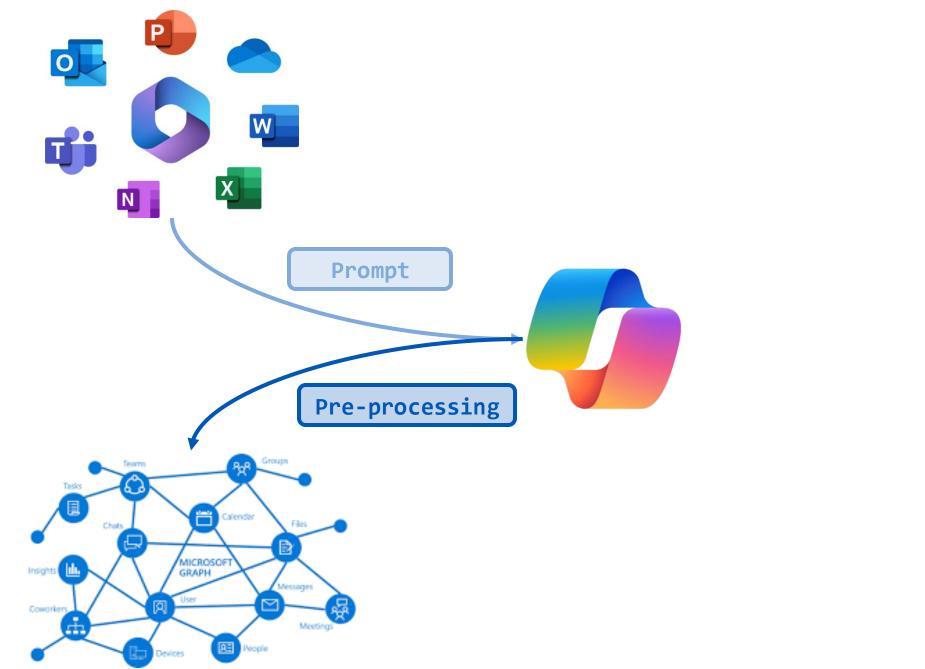
View prompts

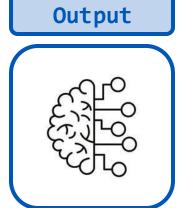
Message Copilot		
0 / 2000	Ø	

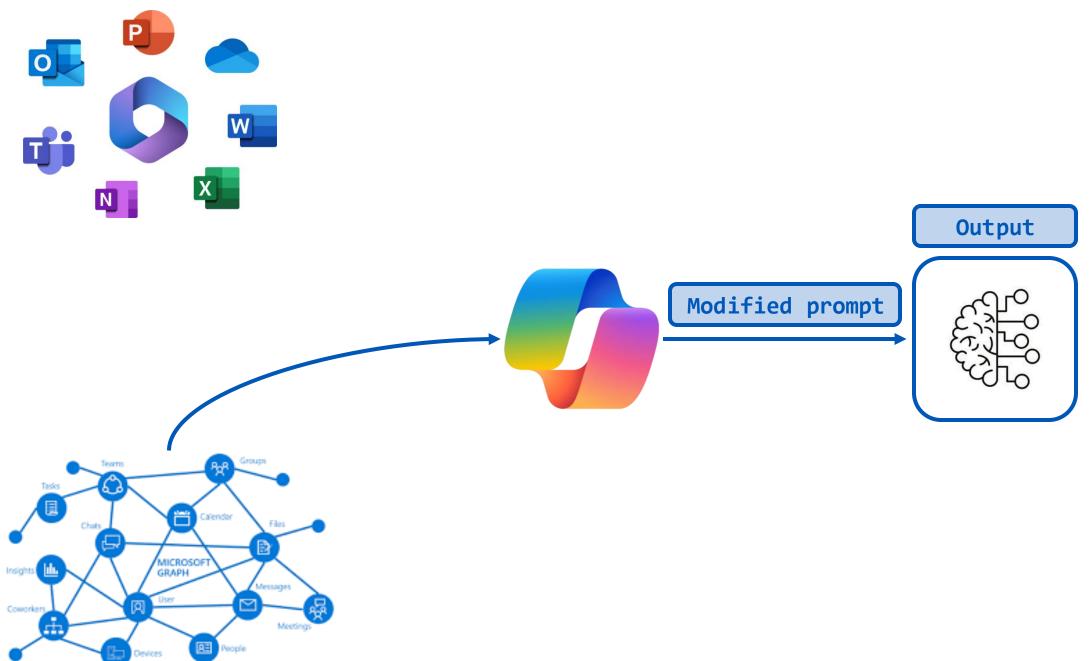












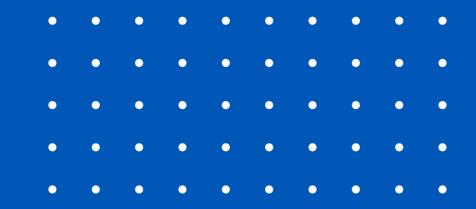
RAG Overview

### **Microsoft 365 Copilot Advantages**

- 1. Prompt directly in your apps
- 2. Utilize the context of your own organization,
- 3. Built on top of the security you already have in place
- 4. Architected to protect your data
- 5. Constantly growing

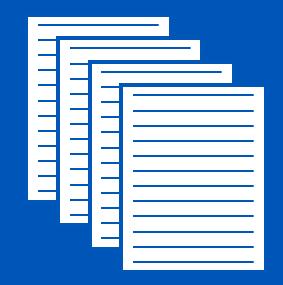


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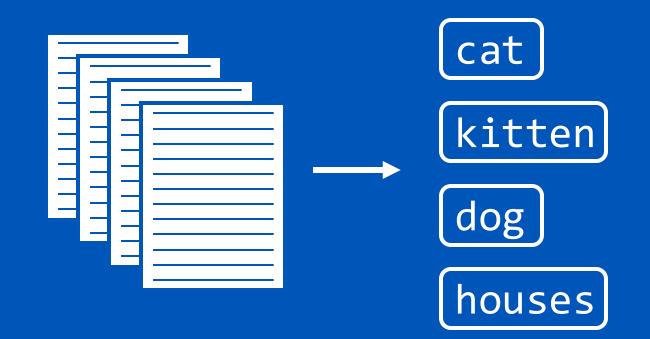


# Prompt Engineering with Copilot

Ryan Harrington ryanh@techimpact.org









cat	0.6	0.9	0.1	0.4	-0.7	-0.3	-0.2
kitten	0.5	0.8	-0.1	0.2	-0.6	-0.5	-0.1
dog	0.7	-0.1	0.4	0.3	-0.4	-0.1	-0.3
houses	-0.8	-0.4	-0.5	0.1	-0.9	0.3	0.8



	Living being	Feline	Human	Gender	Royalty	Verb	Plural
cat	0.6	0.9	0.1	0.4	-0.7	-0.3	-0.2
kitten	0.5	0.8	-0.1	0.2	-0.6	-0.5	-0.1
dog	0.7	-0.1	0.4	0.3	-0.4	-0.1	-0.3
houses	-0.8	-0.4	-0.5	0.1	-0.9	0.3	0.8



	Living being	Feline	Human	Gender	Royalty	Verb	Plural
cat	0.6	0.9	0.1	0.4	-0.7	-0.3	-0.2
kitten	0.5	0.8	-0.1	0.2	-0.6	-0.5	-0.1
dog	0.7	-0.1	0.4	0.3	-0.4	-0.1	-0.3
houses	-0.8	-0.4	-0.5	0.1	-0.9	0.3	0.8



	Living being	Feline	Human	Gender	Royalty	Verb	Plural
cat	0.6	0.9	0.1	0.4	-0.7	-0.3	-0.2
kitten	0.5	0.8	-0.1	0.2	-0.6	-0.5	-0.1
dog	0.7	-0.1	0.4	0.3	-0.4	-0.1	-0.3
houses	-0.8	-0.4	-0.5	0.1	-0.9	0.3	0.8



	Living being	Feline	Human	Gender	Royalty	Verb	Plural
cat	0.6	0.9	0.1	0.4	-0.7	-0.3	-0.2
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dog	0.7	-0.1	0.4	0.3	-0.4	-0.1	-0.3
houses	-0.8	-0.4	-0.5	0.1	-0.9	0.3	0.8



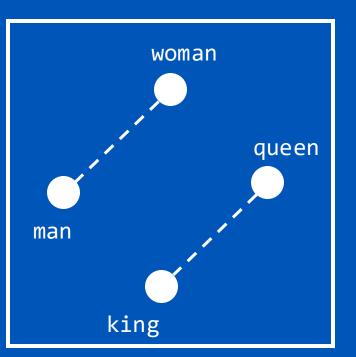
	Living being	Feline	Human	Gender	Royalty	Verb	Plural	
cat	0.6	0.9	0.1	0.4	-0.7	-0.3	-0.2	houses 🦳
kitten	0.5	0.8	-0.1	0.2	-0.6	-0.5	-0.1	cat
dog	0.7	-0.1	0.4	0.3	-0.4	-0.1	-0.3	kitten
houses	-0.8	-0.4	-0.5	0.1	-0.9	0.3	0.8	dog



	Living being	Feline	Human	Gender	Royalty	Verb	Plural
man	0.6	-0.2	0.8	0.9	-0.1	-0.9	-0.7
woman	0.7	0.3	0.9	-0.7	0.1	-0.5	-0.4
king	0.5	-0.4	0.7	0.8	0.9	-0.7	-0.6
queen	0.8	-0.1	0.8	-0.9	0.8	-0.5	-0.9



	Living being	Feline	Human	Gender	Royalty	Verb	Plural
man	0.6	-0.2	0.8	0.9	-0.1	-0.9	-0.7
woman	0.7	0.3	0.9	-0.7	0.1	-0.5	-0.4
king	0.5	-0.4	0.7	0.8	0.9	-0.7	-0.6
queen	0.8	-0.1	0.8	-0.9	0.8	-0.5	-0.9



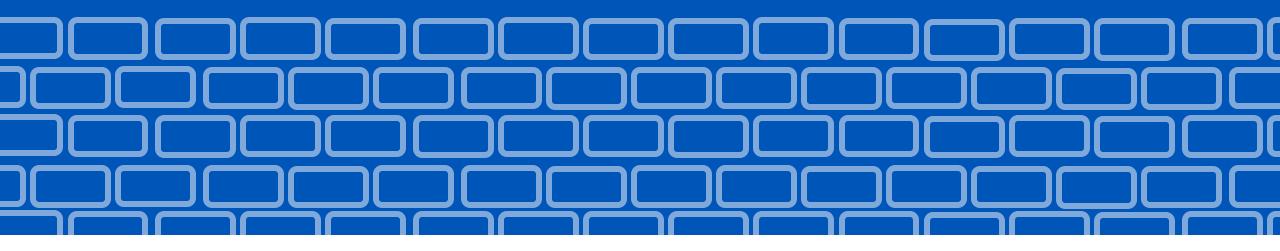




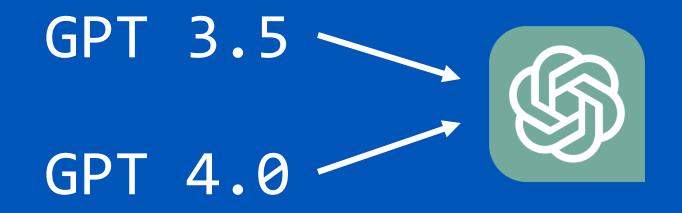


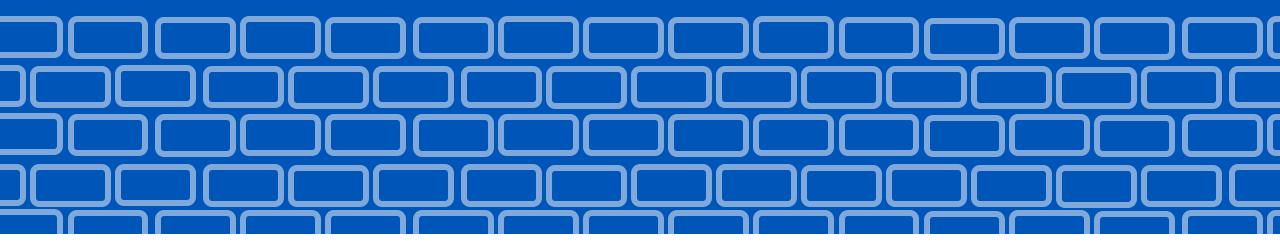
### GPT 3.5

### GPT 4.0

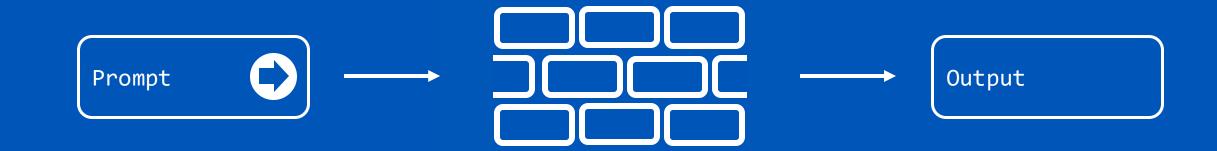


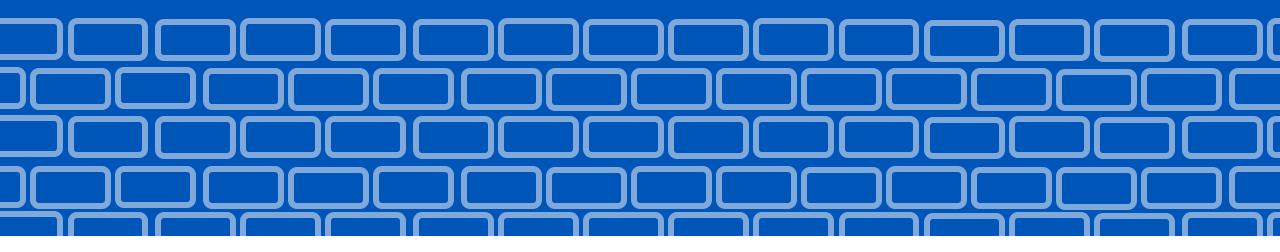












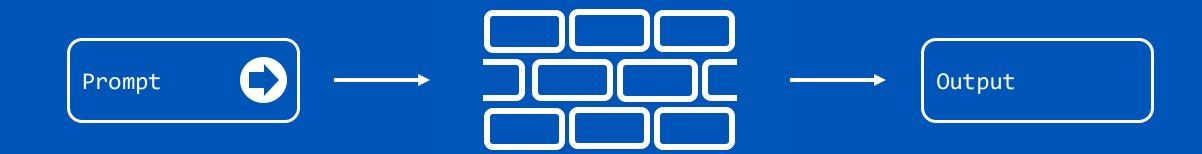


### **Solution:** RAG Models

Retrieval Augmented Generation



### **Solution:** RAG Models





## **Solution:** RAG Models

