

Master the Prompt, Command the Response: Unlock the Power of AI with Precision

Prompt Engineering

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<https://github.com/iportilla/prompt>

Objectives of This Talk

Upon completion of this lecture, you will understand:

- ❑ Generative AI (GenAI) & Large Language Models (M365 Copilot)
- ❑ Prompt Engineering best practices
- ❑ Applied prompt engineering in business use cases

Agenda

1. GenAI recap
2. Prompt Engineering
3. Look ahead

<https://github.com/iportilla/prompt>

GenAI

Artificial Intelligence

Machine Learning

Deep Learning

Generative AI

Agentic AI



Artificial Intelligence

Intelligence demonstrated by machines



Machine Learning

Learn from data



Deep Learning

Model after the human brain (Neural Networks)



Generative AI

Create new written, visual, and auditory content



Agentic AI

Can set goals, make decisions to achieve those goals

Generative AI

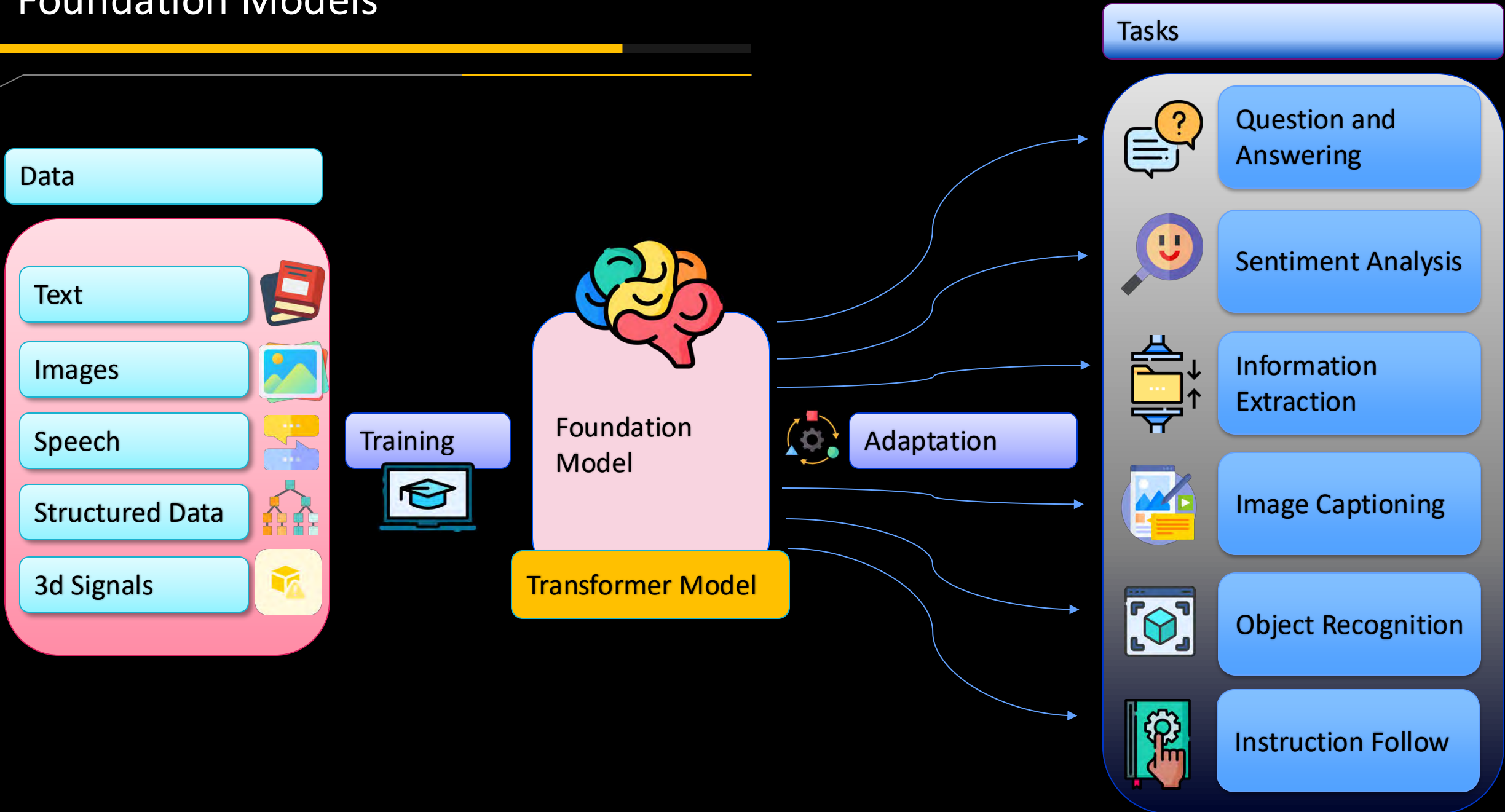
The best thing about AI is its ability to ...

Adapt = 30%

Process = 22%

Analyze = 7%

Foundation Models



Prompt Engineering

Process of crafting **effective** inputs to guide the behavior & output of a language model toward a **desired** result.

Copilot Prompt Best Practices

Goal

What do you want from Copilot?

"I want a list of 3-5 bullet points to prepare me..."

+

Context

Why do you need it and who is involved?

"...for an upcoming meeting with [client], focusing on their current state and what they're looking to achieve."

+

Expectations

How should Copilot respond to best fulfill your request?

"Respond with a tone that is friendly but authoritative..."

+

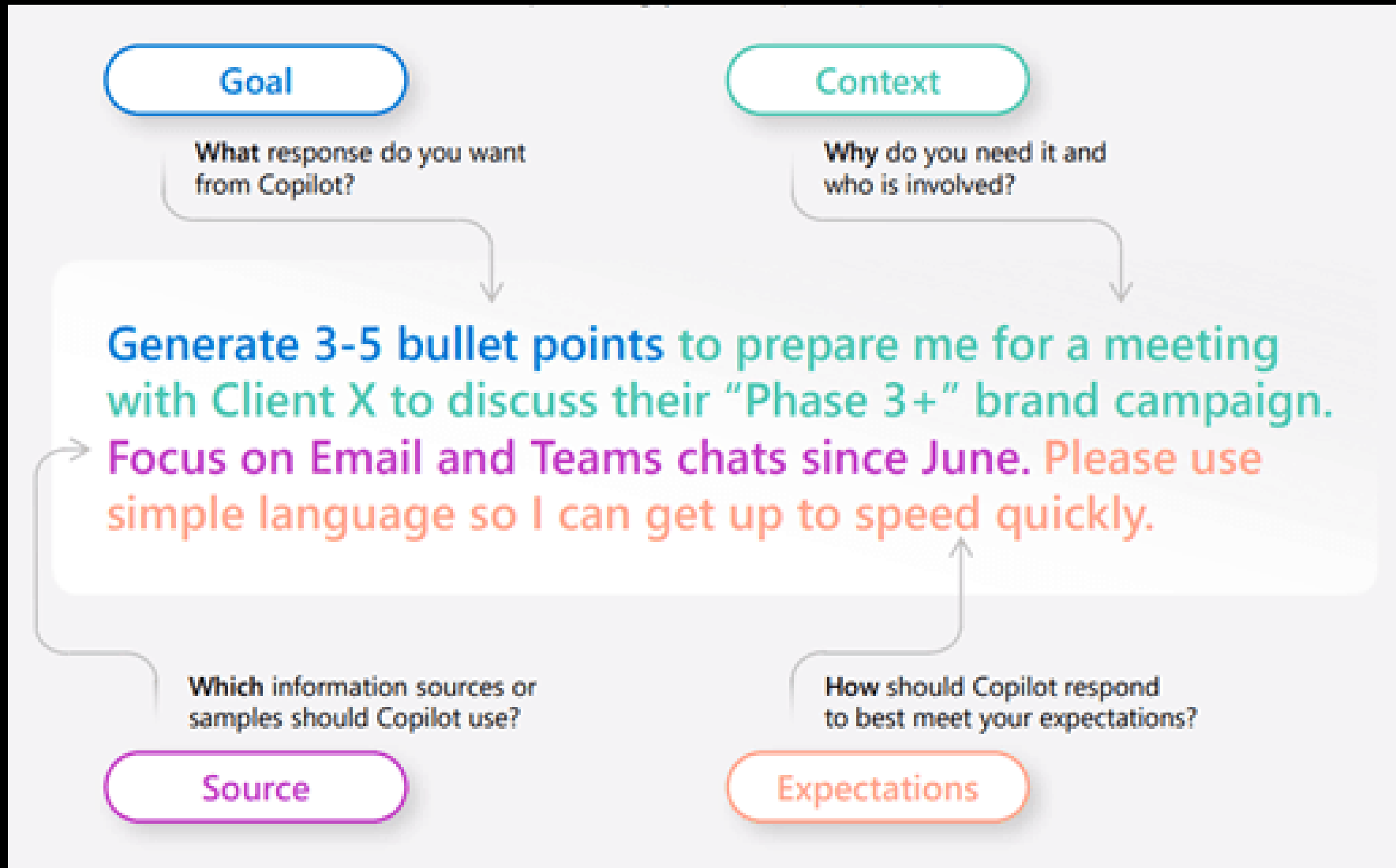
Source

What information or samples do you want Copilot to use?

"... and focus on email and Teams chats with [people] over the last two weeks."

<https://copilot.cloud.microsoft/en-US/prompts>

Copilot Prompt Best Practices



Copilot Prompt Best Practices

Prompt 1: Write a blog post about sustainable practices in agriculture

Prompt 2: Craft a 1500-word blog post for a general audience interested in sustainability focusing on the significance and benefits of sustainable agricultural practices like organic farming and agroforestry. Include real-world examples, innovative technologies, and insights from reputable sources. Conclude with a reflection on the importance of these practices and a call for collective efforts to embrace them

Prompt Design Techniques

Text Classification

Named Entity Recognition (Zero-Shot)

Extract the **name** and mailing address from this email:

Dear Kaylee,
It was great to talk to you at the seminar. I thought Jane's talk was quite good.
Thank you for the book. Here's my address 2111 Ash Lane,
Boulder, CO 80301

Best,
Marilú

Name: Marilú

Mailing Address: 2111 Ash Lane, Boulder, CO 80301

Text Classification

Custom Named Entities (Few-Shot)

Extract job titles from the following sentences.

Sentence: Jane Doe has been working for Microsoft for 20 years as a Linux Engineer.

Job title: Linux Engineer

###

Sentence: Jane Doe has been working for Microsoft for 20 years and she loved it.

Job title: none

###

Sentence: Marc Simoncini | Director | Meetic

Job title: Director

###

Sentence: Damien is the CTO of Platform.sh, he was previously the CTO of Commerce Guys, a leading ecommerce provider.

Job title: CTO

Abstractive Summarization

Contact Center Summarization

Summarize this for a call center agent:

Agent: Thank you for calling ADM. Who am I am speaking to?

Customer: Hello, my name is Peter Smith. I own a small business and have some questions regarding payroll processing.

Agent: Good morning, Peter, before we get started may I ask you a few questions so that I better answer your questions today?

Customer: Thank you that is quite helpful. Are there specific regulations that I need to follow?

Agent: Certain aspects of payroll processing are regulated by the Internal Revenue Service (IRS) and the Department of Labor (DOL)

The agent is speaking to a customer named Peter Smith. Peter is asking for tips on manual payroll processing. The agent also informs Peter that certain aspects of payroll processing are regulated by the Internal Revenue Service (IRS) and the Department of Labor (DOL).

Email Analysis Exercise: Entity Extraction & Summary

Subject: Inquiry Regarding Ricoh VC80000 Capabilities and Integration

Dear Ricoh Sales Team,

My name is Peter Smith, and I am the owner of SmallBizCo, a growing print services provider. We are currently evaluating high-speed inkjet solutions for our next phase of expansion and are particularly interested in learning more about the Ricoh VC80000.

Could you please provide additional information on the following:

- Print resolution and speed benchmarks
- Compatibility with third-party workflow tools
- Maintenance and support options
- Integration with our existing prepress and finishing systems

If possible, I would also appreciate a product brochure or a link to a recent case study that highlights real-world applications of the VC80000.

Thank you for your time and assistance. I look forward to hearing from you soon.

Best regards,
Peter Smith
Owner, SmallBizCo
peter.smith@smallbizco.com
(555) 123-4567

Extract Key Entities

- Sender Name
- Company Name
- Email Address
- Phone Number
- Product Mentioned
- Information Requested

Summarize the Email

- Write a 2–3 sentence summary of the customer's inquiry.

Tip 1 – System Role prompt

A special instruction used at the start of a conversation with a LLM to set **its behavior, tone, & expertise level** throughout the session.

Ensures that responses are aligned with the user's expectations, whether for technical support, teaching, brainstorming, or role-play.

Example

- List acceptable uses of AI

System Role

- You are the leader of IT Security at our company, list acceptable uses of AI

Tip 2 – Prompt Chaining

Multiple prompts are used in a **step-by-step sequence**, where each prompt builds on the output of the previous one.

This allows the LLM to perform complex tasks that require reasoning, context building, or structured processing—**breaking big problems into manageable steps**.

1. **Prompt 1** – *Brainstorm ideas:*
“List 3 strong arguments for why renewable energy should replace fossil fuels.”
2. **Prompt 2** – *Expand on one idea:*
“Take the second argument and write a paragraph explaining it in detail.”
3. **Prompt 3** – *Write full essay:*
“Using the three arguments listed earlier, write a complete 5-paragraph persuasive essay.”

Each step “chains” from the previous, making the final result more focused and coherent.

Tip 3 - Reflection

Self-Critique & Correction

The AI reviews its own response, identifies a mistake or weak logic, and corrects it.

"Is 17 a prime number? Explain your answer."

AI Response:

"17 is not a prime number because it can be divided by 1, 17, and also by other numbers like 3."

Reflexion:

"Wait, that answer is incorrect. Let me check again. A prime number is only divisible by 1 and itself. 17 cannot be divided evenly by any number other than 1 and 17. So, 17 **is** a prime number."

Tip 4 – Multimodal RAG

A hybrid method where the model *retrieves relevant documents* (from a knowledge base) and uses them to generate responses.

Goal:

Give the model **fresh, factual, or domain-specific knowledge** that it wasn't trained on.

Prompt Engineering

Explain the French Revolution in simple terms for a 10-year-old



Language Model



The French Revolution was a period of major social change in France...



Output

RAG (Retrieval-Augmented Generation)

What were the major events of the French Revolution?



Document

Some major events of the French Revolution included...



Language Model

AI-Powered Business Communication Exercise

Use AI with prompt engineering techniques to create, refine, and validate executive communications.

Part 1: System Role Prompt: "You are a highly experienced executive assistant skilled in writing concise, persuasive business emails. Always use a professional tone, be direct, and highlight key points clearly."

Part 2: Prompt Chaining

- Step 1: Summarize the client's concern in one sentence.
- Step 2: Draft a firm yet professional response addressing the concern.
- Step 3: Add a closing paragraph reinforcing partnership and collaboration.

Part 3: Reflexion Prompt: "Review the email for tone and clarity. Does it reflect professionalism and our values? Suggest one improvement."

(Optional Part 4: RAG) If contract docs are available: Rewrite email using retrieved clauses to ensure compliance.

AI-Powered Business Communication Exercise

- **Step 1:** Summarizing the concern
- **Step 2:** Drafting a professional yet firm response
- **Step 3:** Adding a closing paragraph to rebuild trust
- **Reflexion step:** Checking for tone, alignment, and clarity

Subject: Frustration with Delayed Shipments

Dear [Company Support Team,

I'm reaching out to express my frustration regarding the recent delays in our shipments. This has caused significant disruption to our operations and has put us in a difficult position with our clients.

We chose your services based on your reputation for reliability, but these delays are becoming a recurring issue. If this isn't resolved quickly, we may be forced to explore alternative vendors.

Please let me know how you plan to address this immediately.

Sincerely,

Melissa Hart

Operations Manager

Northwest Logistics

melissa.hart@nwlogistics.com

Advanced Prompting Patterns

Chain of Thought Pattern

CoT Pattern

Q: A train is traveling at 60 miles per hour and needs to travel 120 miles. How long will the journey take?



Let's think step by step:

1. First, we know the train's speed is 60 miles per hour. This means in one hour, the train travels 60 miles.
2. Next, the total distance the train needs to cover is 120 miles.
3. To find the time it takes, we divide the total distance by the speed. This gives us:

$$\text{Time} = \frac{\text{Distance}}{\text{Speed}} = \frac{120 \text{ miles}}{60 \text{ miles per hour}} = 2 \text{ hours}$$

4. So, the train will take 2 hours to travel 120 miles.

Chain of Thought Example:

Planning a New Feature Launch

Prompt:

“We’re planning to launch a new feature. Let’s outline a structured approach to ensure a successful launch.

First, we’ll clarify the feature’s requirements. Next, we’ll list the development, testing, and deployment tasks. Then, we’ll define the timeline, assign resources, and anticipate potential risks. Finally, we’ll identify key milestones and checkpoints for monitoring progress.

Chain of Thought Steps:

1. Define feature requirements and objectives.
2. Break down tasks by phase (development, testing, deployment).
3. Estimate timelines and allocate team resources.
4. Identify risks and create a mitigation plan.
5. Set milestones for tracking and accountability.

Chain of Thought Example:

Analyzing a Project Delay

Prompt:

“Our project is behind schedule. To understand the cause, let’s break down the possible factors contributing to this delay.

First, let’s list each phase of the project and its current status. Then, we’ll evaluate any dependencies, resource issues, and task completion rates in each phase. Finally, we’ll identify any specific bottlenecks and propose solutions.

Chain of Thought Steps:

1. List project phases and their statuses.
2. Identify key dependencies between tasks.
3. Evaluate resource allocation and team workload.
4. Pinpoint any bottlenecks or high-priority issues.
5. Suggest actions to recover from delays, such as re-allocating resources or reprioritizing tasks.

Reason and Act Pattern

ReAcT Pattern

Q: Who was the 16th President of the United States, and in what year did he take office?



- **Thought:** I need to identify the 16th President of the United States and determine the year they took office. Let me look up who the 16th President was.
- **Action:** Search for "16th President of the United States."
- **Observation:** The 16th President was Abraham Lincoln.
- **Thought:** Now I need to find the year Abraham Lincoln took office. Let me look that up.
- **Action:** Search for "Abraham Lincoln inauguration year."
- **Observation:** Abraham Lincoln took office in 1861.

ReAct Example:

Handling a Scope Change

Prompt:

“We have a last-minute scope change request from a client. Let’s reason through this scenario to decide if we should accept or defer it.”

First, we’ll assess how the change affects the current timeline, resources, and budget. Then, we’ll evaluate if there are any benefits to implementing the change now versus later. Finally, we’ll make a decision and outline the steps needed to communicate it to the client.

ReAct Steps:

- **Reasoning Step:** Evaluate how the scope change affects the project’s key metrics (timeline, resources, budget).
- **Action Step:** Decide whether to accept or defer the change.
- **Action Step:** Communicate the decision to the client, including reasoning and any alternative suggestions.

ReAct Example:

Delay due to a supplier issue

Prompt:

“There’s a risk of a delay due to a supplier issue. Let’s carefully assess the impact of this risk and decide on a course of action.”

ReAct Steps:

Reasoning Step: Evaluate the dependency on this supplier and the delay’s potential impact on the timeline.

Reasoning Step: Consider alternative suppliers or workarounds to minimize impact.

Action Step: Decide whether to pursue a backup option or mitigate the risk in another way.

Action Step: If needed, communicate the risk and contingency plan to stakeholders."



Prompt Engineering Guide





1. Give clearer instructions





2. Split complex tasks into simpler subtasks



3. Structure the instruction to keep the model on task



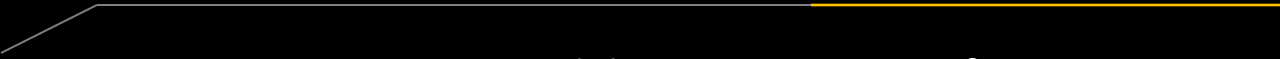

4. Prompt the model to explain before answering



5. Ask for justifications of many possible answers, and then synthesize



6. Generate many outputs, and then use the model to pick the best one



7. Fine-tune custom models to maximize performance



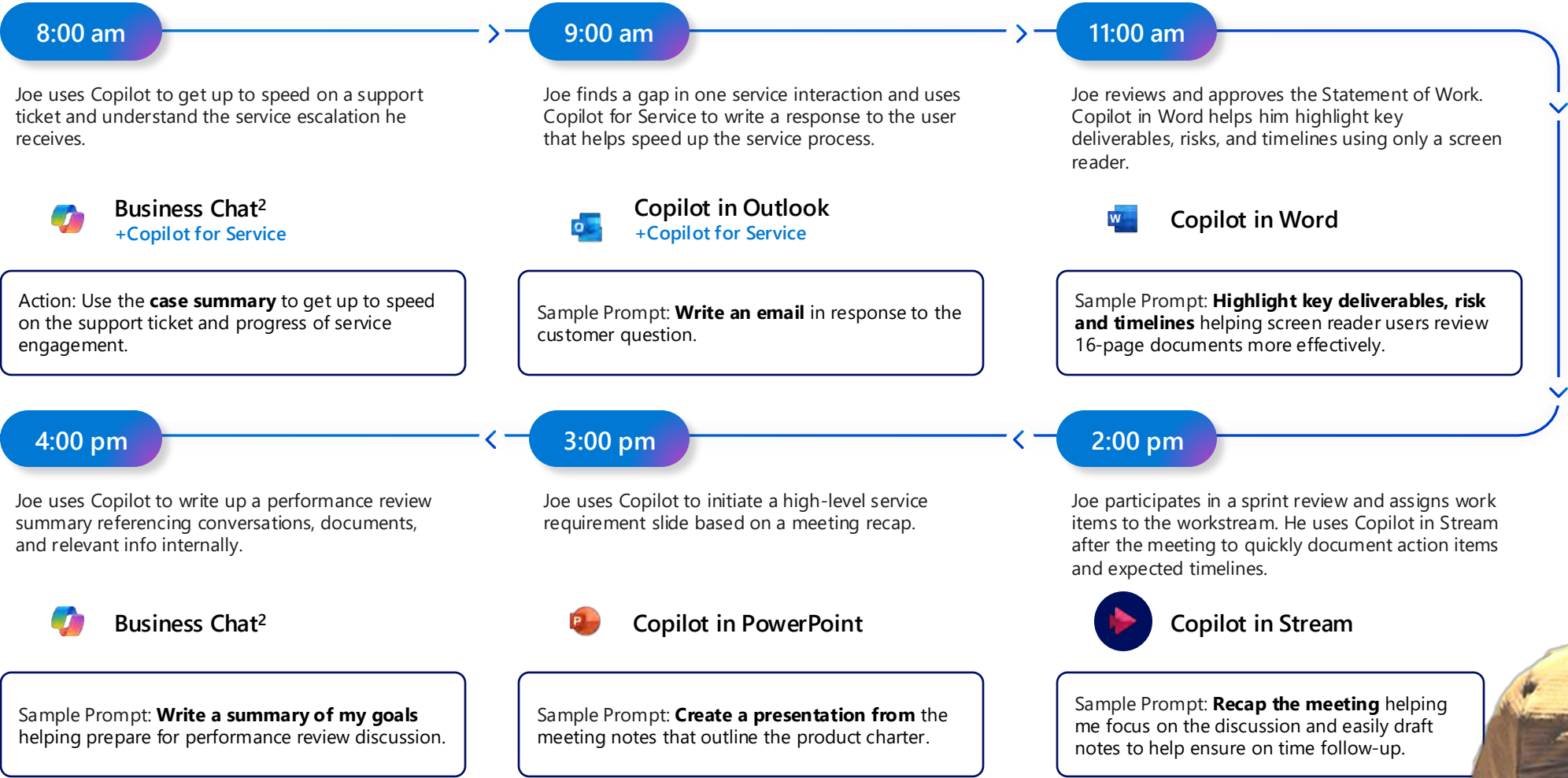
Look ahead

A day in the life of an IT Product Manager at Microsoft

Available with:
Copilot for Service (includes Microsoft 365 Copilot)

Scenario level: ● ● ●
Extend

- Benefits
- ~1 hour
- Brainstorming new solutions
- Faster responses, better insights and better communication

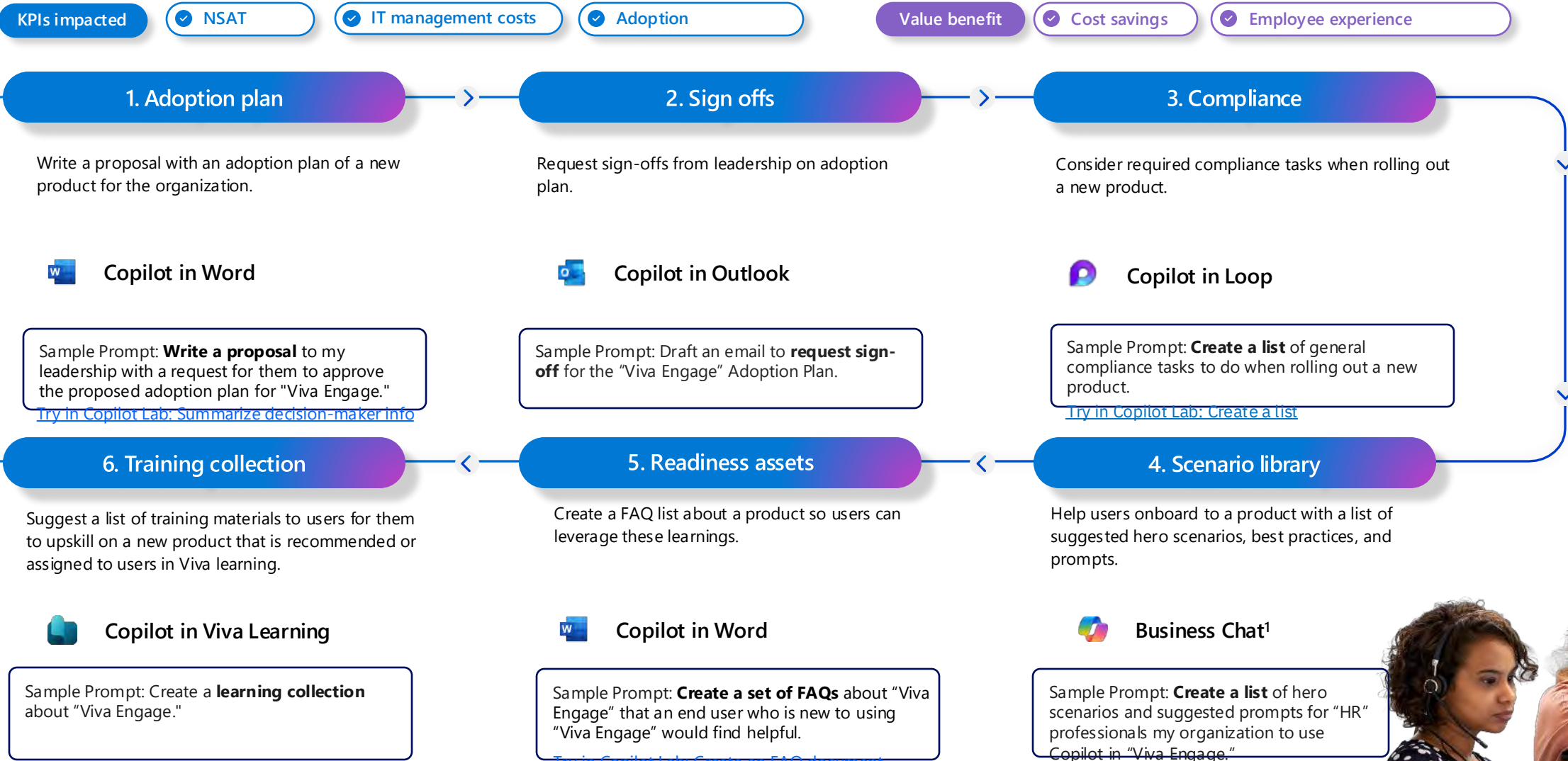


Joe
is a Senior
Product Manager



¹Access Copilot at copilot.microsoft.com or the Microsoft Copilot mobile app and set toggle to "Web".
²Access Business Chat at copilot.microsoft.com, the Microsoft Copilot mobile app, or the Copilot app in Teams, and set toggle to "Work".
³Copilot agents allow Microsoft 365 Copilot to access your company-specific apps. In the past this would have required an API call to get data from a system of record.
The content in this example scenario is for demonstration purposes only. You should evaluate how Copilot aligns with your organization's business processes, regulatory requirements, and responsible AI principles.

Information Technology | Onboard and train new users



¹Access Copilot at [copilot.microsoft.com](#) or the Microsoft Copilot mobile app and set toggle to "Web".

²Access Business Chat at [copilot.microsoft.com](#), the Microsoft Copilot mobile app, or the Copilot app in Teams, and set toggle to "Work".

³Copilot agents allow Microsoft 365 Copilot to access your organization-specific apps. In the past this would have required an API call to get data from a system of record.

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Meta-prompting

My-day-prompt

Meta-prompting

I want you to become my Prompt engineer. Your goal is to help me craft the best possible prompt for my needs.

The prompt will be used by you, copilot. You will follow the following process:

1. Your first response will be to ask me what the prompt should be about. I will provide my answer, but we will need to improve it through continual iterations by going through the next steps.
2. Based on my input, you will generate 2 sections.
 - a) Revised prompt (provide your rewritten prompt. It should be clear, concise, and easily understood by you)
 - b) Questions (ask any relevant questions pertaining to what additional information is needed from me to improve the prompt).
3. We will continue this iterative process with me providing additional information to you and you updating the prompt in the Revised prompt section until I say we are done

My-day-prompt

Summarize my emails, Teams messages, and Teams Channel messages from the last workday. List action items in a dedicated column.

Suggest follow-ups, if possible, in a dedicated column.

The table should look like this: Type (Mail/Teams/Channel) | Topic | Summarization | Action Item | Follow-up.

If I have been directly mentioned, make the font of the topic bold.

My-day-prompt

Here is the summary of your communications from the last workday:

Type	Topic	Summarization	Action Item	Follow-up
Email	Ivan Portilla, your daily digest contains 1 update across 1 space[EXTERNAL]	You received a daily digest from Confluence with [REDACTED]	None	Check the Confluence space [REDACTED]

It seems there were no Teams messages or Teams Channel messages from the last workday.

Is there anything else you would like to know or any other way I can assist you?



Copy

1 of 30 responses AI-generated content may be incorrect



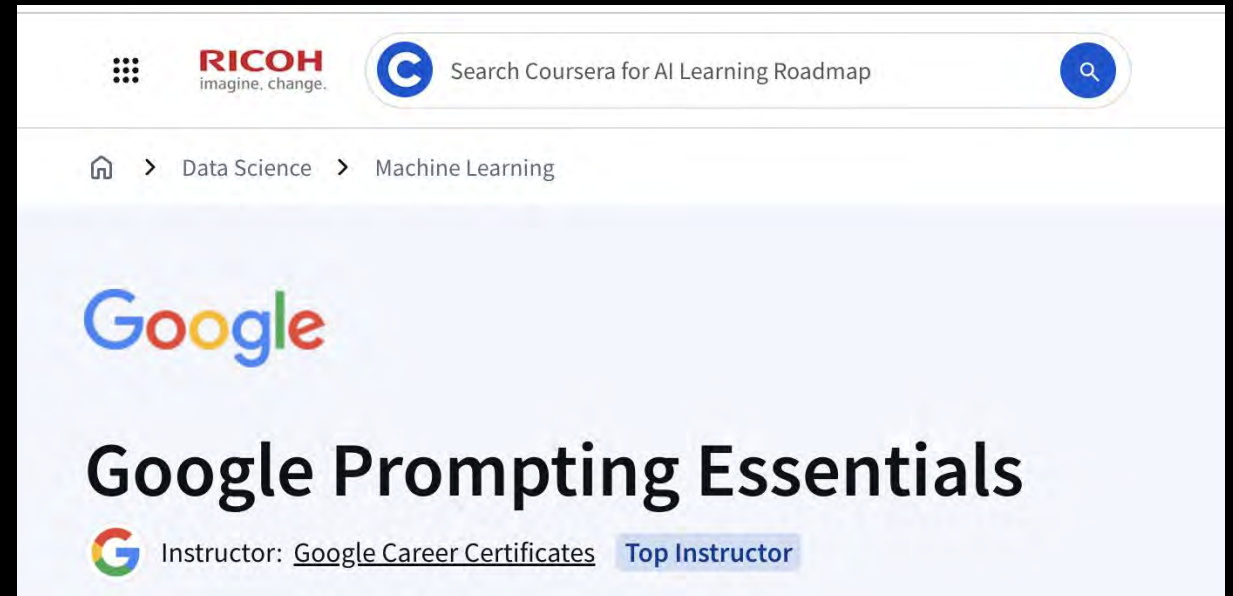
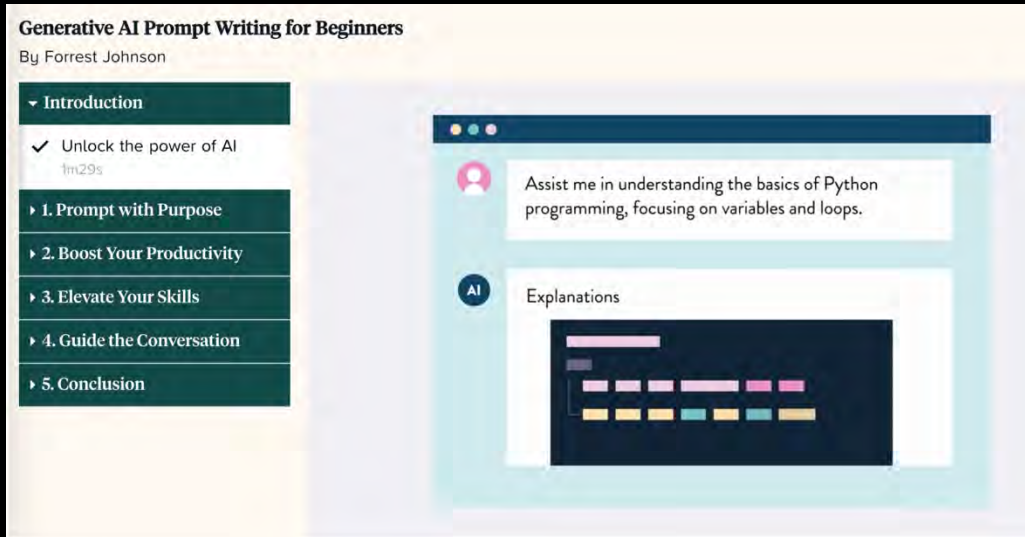
Can you provide more details on the Confluence update?

Summarize my emails and messages from the last two workdays.

Check if there are any missed messages from Teams channels.

3 Takeaways

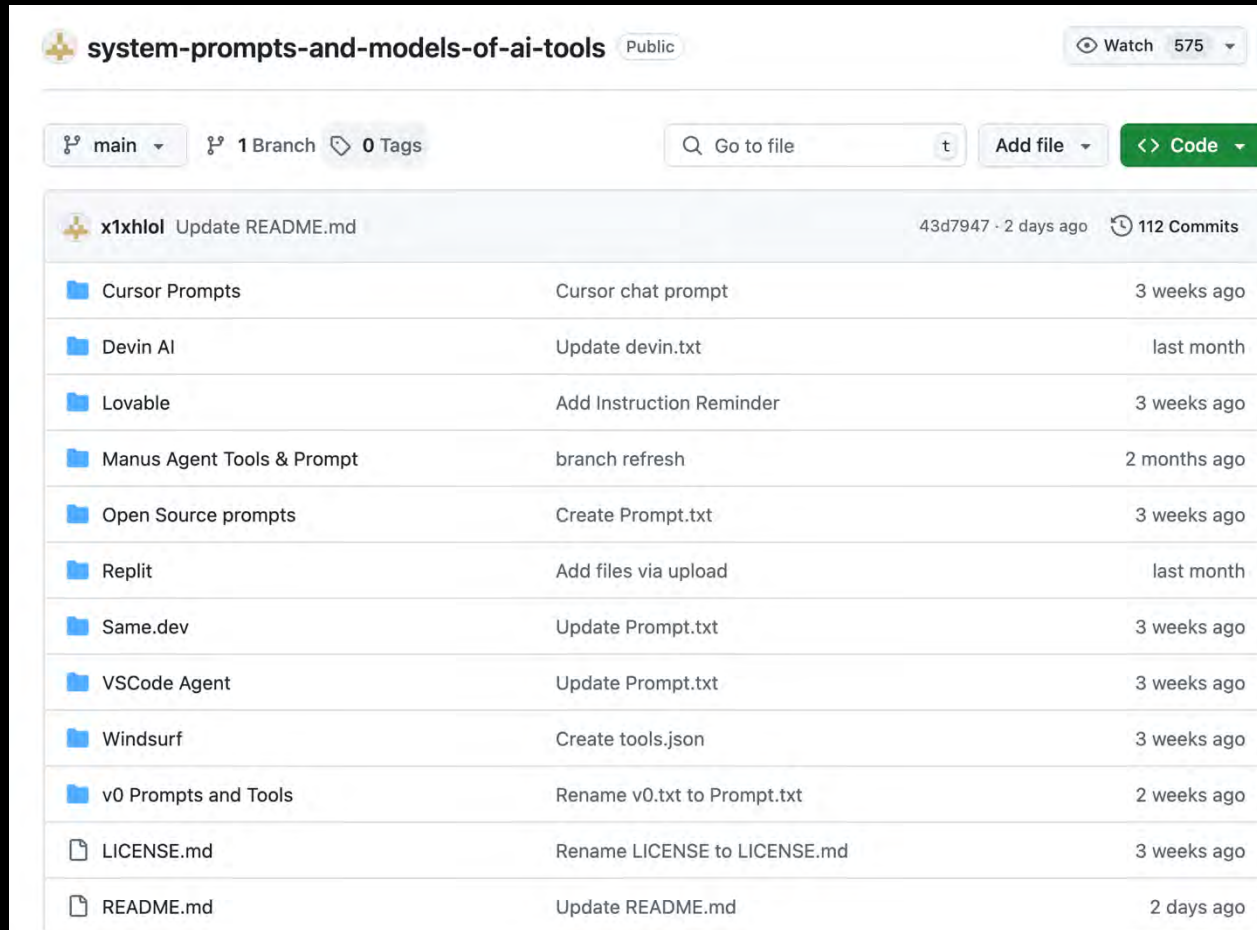
1. Take an online class



<https://www.coursera.org/learn/google-prompting-essentials/>

<https://ricohusa.csod.com/ui/lms-learning-details/app/onlineContent/60daf1fc-48c4-5296-bb7c-eb8fab02f71b>

2. Build your prompt library



system-prompts-and-models-of-ai-tools Public		Watch 575
main	1 Branch	0 Tags
Go to file		Add file Code
x1xh1o1 Update README.md		43d7947 · 2 days ago 112 Commits
Cursor Prompts	Cursor chat prompt	3 weeks ago
Devin AI	Update devin.txt	last month
Lovable	Add Instruction Reminder	3 weeks ago
Manus Agent Tools & Prompt	branch refresh	2 months ago
Open Source prompts	Create Prompt.txt	3 weeks ago
Replit	Add files via upload	last month
Same.dev	Update Prompt.txt	3 weeks ago
VSCode Agent	Update Prompt.txt	3 weeks ago
Windsurf	Create tools.json	3 weeks ago
v0 Prompts and Tools	Rename v0.txt to Prompt.txt	2 weeks ago
LICENSE.md	Rename LICENSE to LICENSE.md	3 weeks ago
README.md	Update README.md	2 days ago

<https://github.com/iportilla/system-prompts-and-models-of-ai-tools>

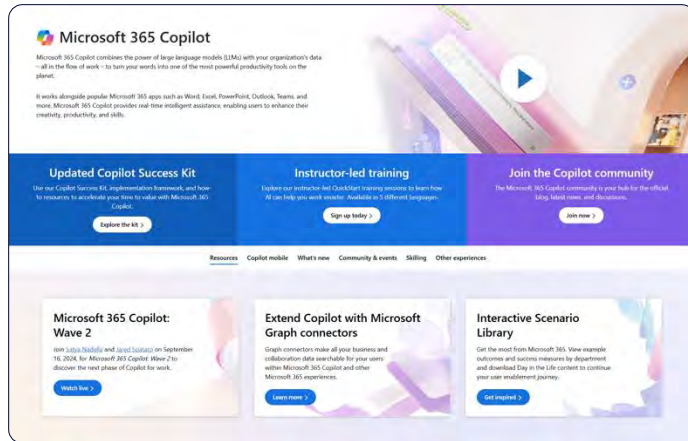
3. When in doubt reach out

Acceptable Uses of AI

1. Approval by IT Governance
2. Compliance with laws and policies
3. Ethical use only
4. Business-related purposes
5. Protect login credentials
6. Company monitoring
7. Review of third-party services

Q & A

Essential Copilot implementation resources



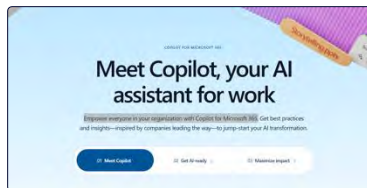
[Microsoft 365 Copilot Hub](#)

Provides resources to help you drive the user enablement of Microsoft services:

- [Copilot Success Kit](#) – a holistic guide that helps you think through the Leadership, Human change, and Technical readiness implementation journeys.
- [Copilot Scenario Library](#) – provides business leaders inspiration on high-value scenarios to select, as well as KPIs they should measure for success.
- [Leading in the era of AI](#) – Practical guidance for leaders of all types to get the most from the adoption of AI capabilities.

More resources

[Meet Copilot](#)



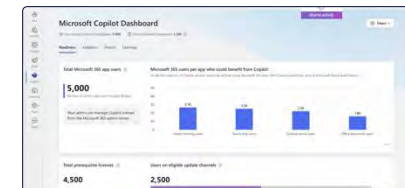
Empower everyone in your organization with Microsoft 365 Copilot.

[Copilot Lab](#)



Learn the art of prompting.

[Copilot Dashboard](#)



Business and IT leaders can plan their AI readiness, drive adoption, and measure impact.