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

|		
1956	**Artificial Intelligence**	Intelligence demonstrated by machines
1997	**Machine Learning**	Learn from data
2017	**Deep Learning**	Model after the human brain (Neural Networks)
2021	**Generative AI**	Create new written, visual, and auditory content
2025	**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
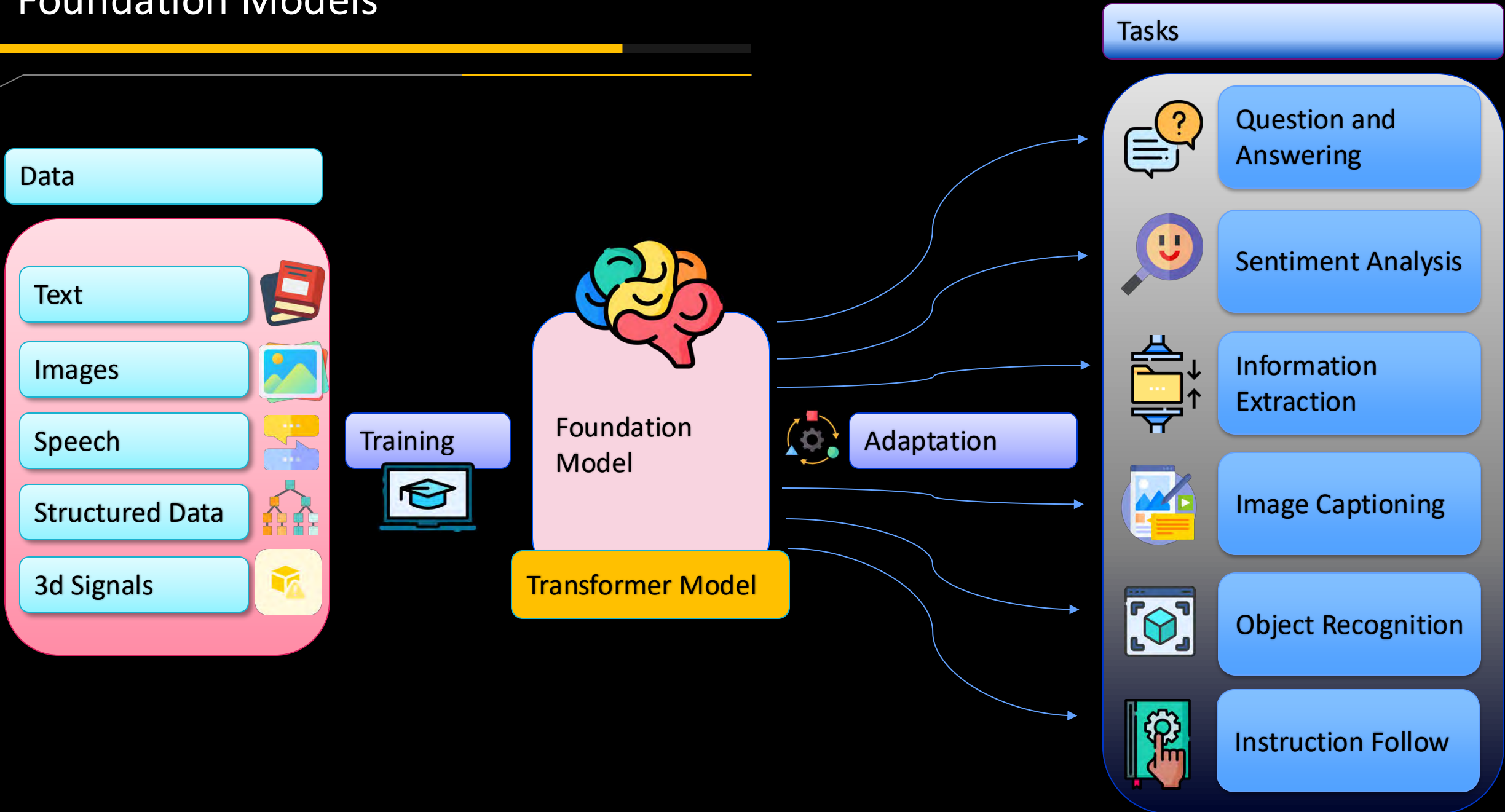
Prompt Engineering

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…"
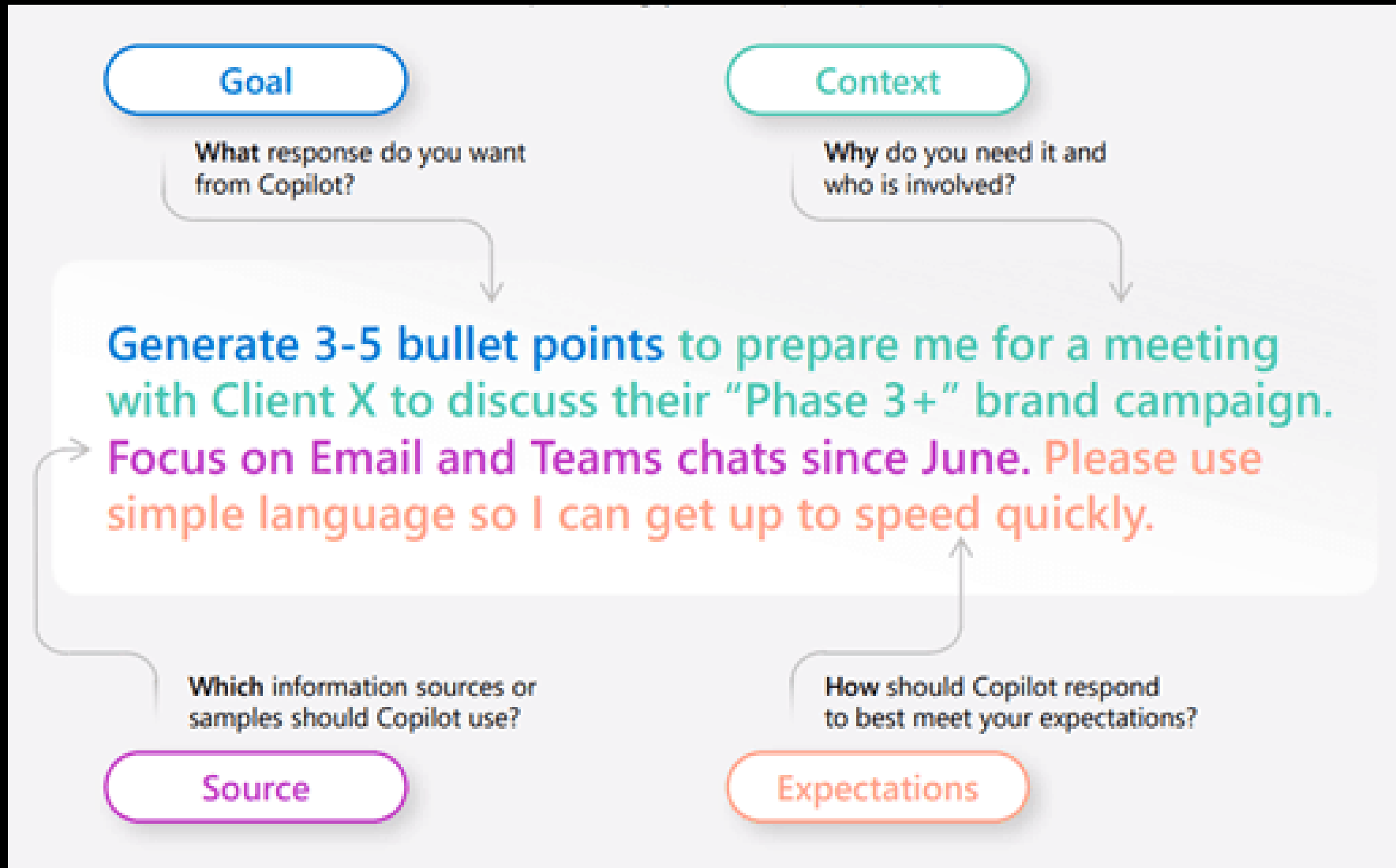
+

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

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.

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

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**.

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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."

Reflection:

"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: Reflection 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**: Summarize the concern
- **Step 2**: Draft a professional yet firm response
- **Step 3**: Add a closing paragraph to rebuild trust
- **Reflection step**: Check 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.

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

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.

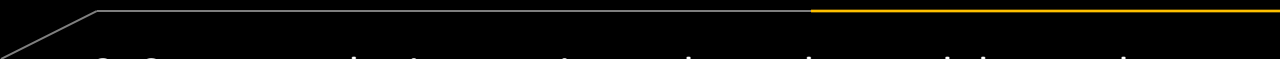**Action Step**: If needed, communicate the risk and contingency plan to stakeholders."

Prompt Engineering Guide
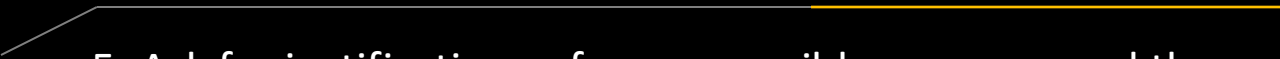
1. Give clearer instructions

2. Split complex tasks into simpler subtasks

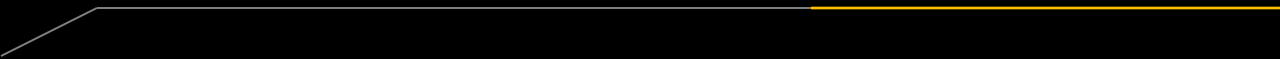3. Structure the instruction to keep the model on task

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
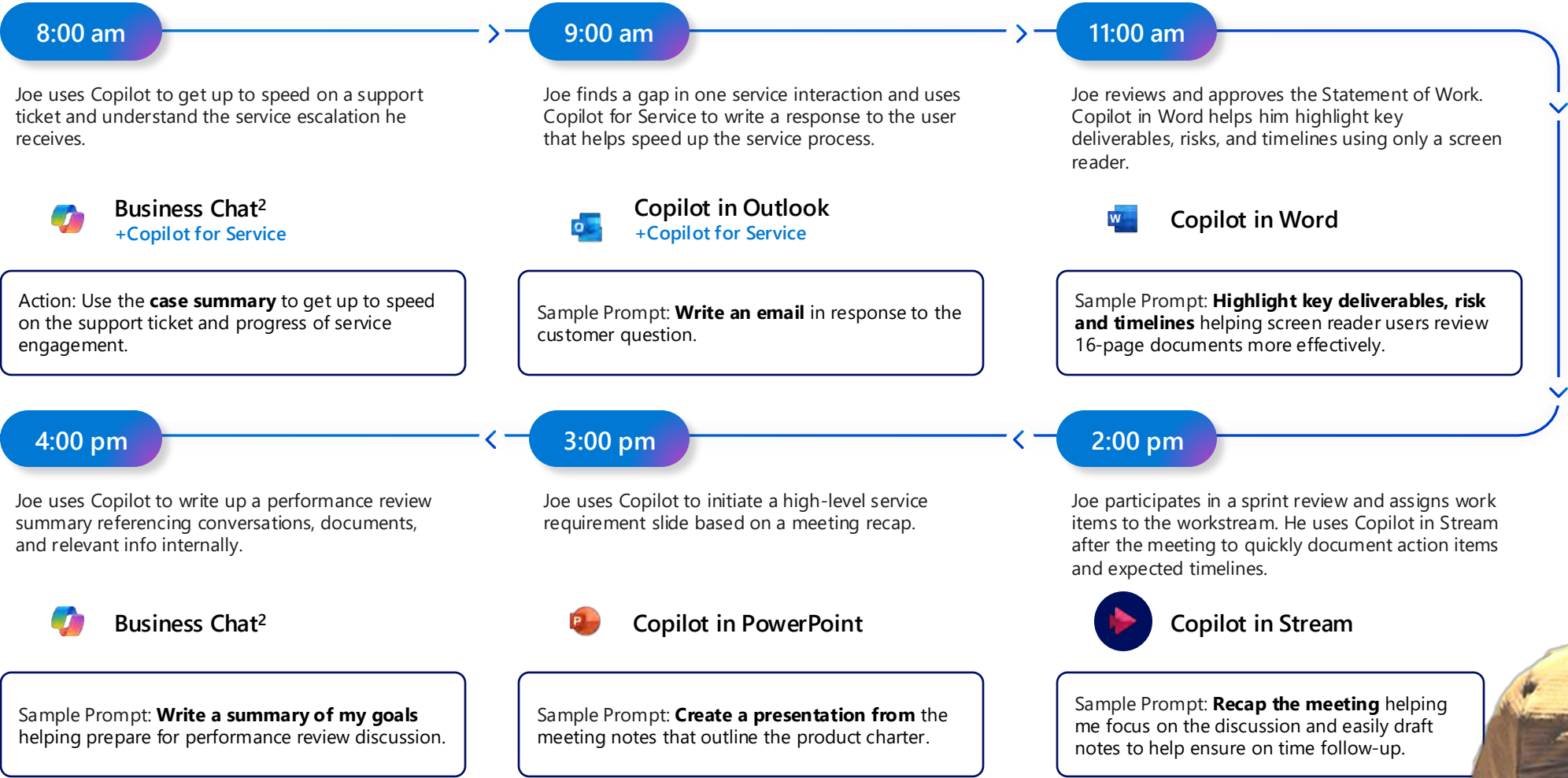
7. Fine-tune custom models to maximize performance

Look ahead

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

Benefits | 🕐 ~1 hour | 🔄 Brainstorming new solutions | ⭐ Faster responses, better insights and better communication

Joe
is a Senior Product Manager

8:00 am

Joe uses Copilot to get up to speed on a support ticket and understand the service escalation he receives.

Business Chat[2]
+Copilot for Service

Action: Use the **case summary** to get up to speed on the support ticket and progress of service engagement.

9:00 am

Joe finds a gap in one service interaction and uses Copilot for Service to write a response to the user that helps speed up the service process.

Copilot in Outlook
+Copilot for Service

Sample Prompt: **Write an email** in response to the customer question.

11:00 am

Joe reviews and approves the Statement of Work. Copilot in Word helps him highlight key deliverables, risks, and timelines using only a screen reader.

Copilot in Word

Sample Prompt: **Highlight key deliverables, risk and timelines** helping screen reader users review 16-page documents more effectively.

4:00 pm

Joe uses Copilot to write up a performance review summary referencing conversations, documents, and relevant info internally.

Business Chat[2]

Sample Prompt: **Write a summary of my goals** helping prepare for performance review discussion.

3:00 pm

Joe uses Copilot to initiate a high-level service requirement slide based on a meeting recap.

Copilot in PowerPoint

Sample Prompt: **Create a presentation from** the meeting notes that outline the product charter.

2:00 pm

Joe participates in a sprint review and assigns work items to the workstream. He uses Copilot in Stream after the meeting to quickly document action items and expected timelines.

Copilot in Stream

Sample Prompt: **Recap the meeting** helping me focus on the discussion and easily draft notes to help ensure on time follow-up.

Information Technology | Onboard and train new users

KPIs impacted — ✓ NSAT — ✓ IT management costs — ✓ Adoption

Value benefit — ✓ Cost savings — ✓ Employee experience

1. Adoption plan

Write a proposal with an adoption plan of a new product for the organization.

Copilot in Word

Sample Prompt: **Write a proposal** to my leadership with a request for them to approve the proposed adoption plan for "Viva Engage."

Try in Copilot Lab: Summarize decision-maker info

2. Sign offs

Request sign-offs from leadership on adoption plan.

Copilot in Outlook

Sample Prompt: Draft an email to **request sign-off** for the "Viva Engage" Adoption Plan.

3. Compliance

Consider required compliance tasks when rolling out a new product.

Copilot in Loop

Sample Prompt: **Create a list** of general compliance tasks to do when rolling out a new product.

Try in Copilot Lab: Create a list

6. Training collection

Suggest a list of training materials to users for them to upskill on a new product that is recommended or assigned to users in Viva learning.

Copilot in Viva Learning

Sample Prompt: Create a **learning collection** about "Viva Engage."

5. Readiness assets

Create a FAQ list about a product so users can leverage these learnings.

Copilot in Word

Sample Prompt: **Create a set of FAQs** about "Viva Engage" that an end user who is new to using "Viva Engage" would find helpful.

Try in Copilot Lab: Create an FAQ document

4. Scenario library

Help users onboard to a product with a list of suggested hero scenarios, best practices, and prompts.

Business Chat[1]

Sample Prompt: **Create a list** of hero scenarios and suggested prompts for "HR" professionals my organization to use Copilot in "Viva Engage."

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
Mail	**Ivan Portilla, your daily digest contains 1 update across 1 space[EXTERNAL]**	You received a daily digest from Confluence wi⬛⬛⬛⬛⬛⬛⬛⬛⬛⬛⬛⬛⬛⬛⬛⬛⬛⬛⬛	None	Check the Confluence sp⬛⬛⬛⬛⬛⬛⬛⬛⬛⬛⬛⬛⬛⬛

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.

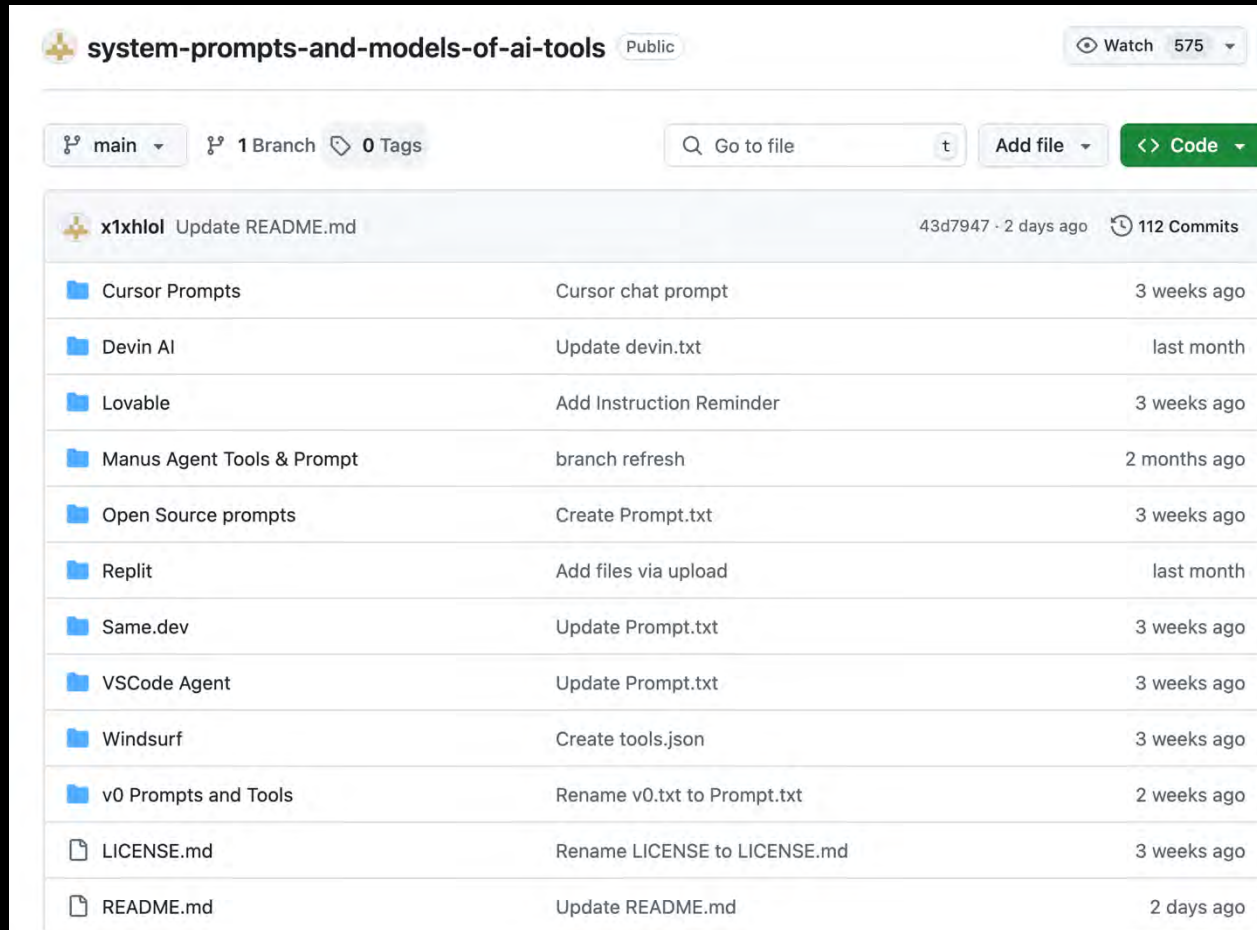Check if there are any missed messages from Teams channels.

3 Takeaways

1. Take an online class

Generative AI Prompt Writing for Beginners
By Forrest Johnson

- ▼ Introduction
  - ✓ Unlock the power of AI
    1m29s
- ▶ 1. Prompt with Purpose
- ▶ 2. Boost Your Productivity
- ▶ 3. Elevate Your Skills
- ▶ 4. Guide the Conversation
- ▶ 5. Conclusion

Assist me in understanding the basics of Python programming, focusing on variables and loops.

AI   Explanations

RICOH
imagine. change.

Search Coursera for AI Learning Roadmap

🏠 > Data Science > Machine Learning

Google

Google Prompting Essentials

G   Instructor: Google Career Certificates   Top Instructor

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

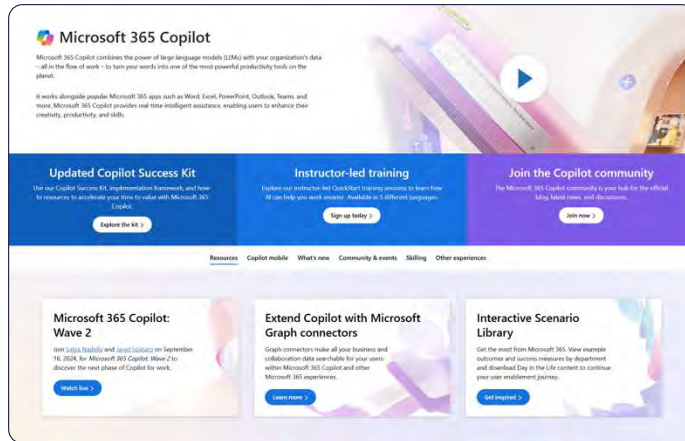https://github.com/iportilla/system-prompts-and-models-of-ai-tools

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.
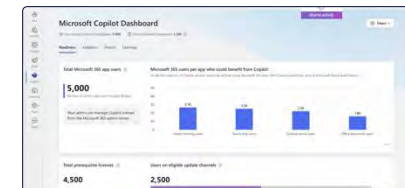
More resources

Meet Copilot
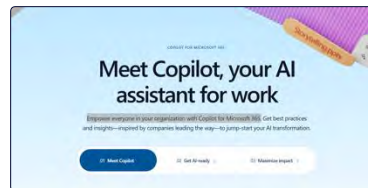
Empower everyone in your organization with Microsoft 365 Copilot.

Copilot Lab

Learn the art of prompting.

Copilot Dashboard

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