



IAITAM ACE

May 7-9, 2024 The M Resort 🌴 Las Vegas, NV

Leverage Generative AI Effectively and Efficiently

By Wil Herrera, iT1



Finding your IAITAM Oasis

Leverage Generative AI Effectively and Efficiently

Agenda



1. History of Generative AI
2. Considerations for using AI
3. Organizational best practices for using AI
4. Individual best practices for using AI
5. Writing effective AI prompts



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Introductory overview of Generative AI



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What is Generative AI?

Generative AI, also known as GenAI or GAI, is a type of artificial intelligence capable of generating new content such as text, images, videos, or other data.

This is **achieved using statistical models** capable of generating new data instances, often in response to prompts. These AI models learn the patterns and structure of their input training data and then generate new data that has similar characteristics.

Generative AI can **learn from existing artifacts to generate new, realistic artifacts** (at scale) that reflect the characteristics of the training data but don't repeat it.

It can produce a variety of novel content, such as images, video, music, speech, text, software code, and product designs.



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What is Generative AI? (Cont.)

Generative AI has diverse applications across various industries:

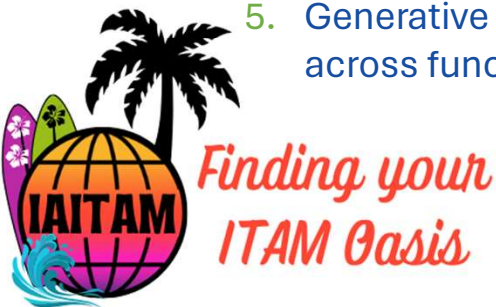
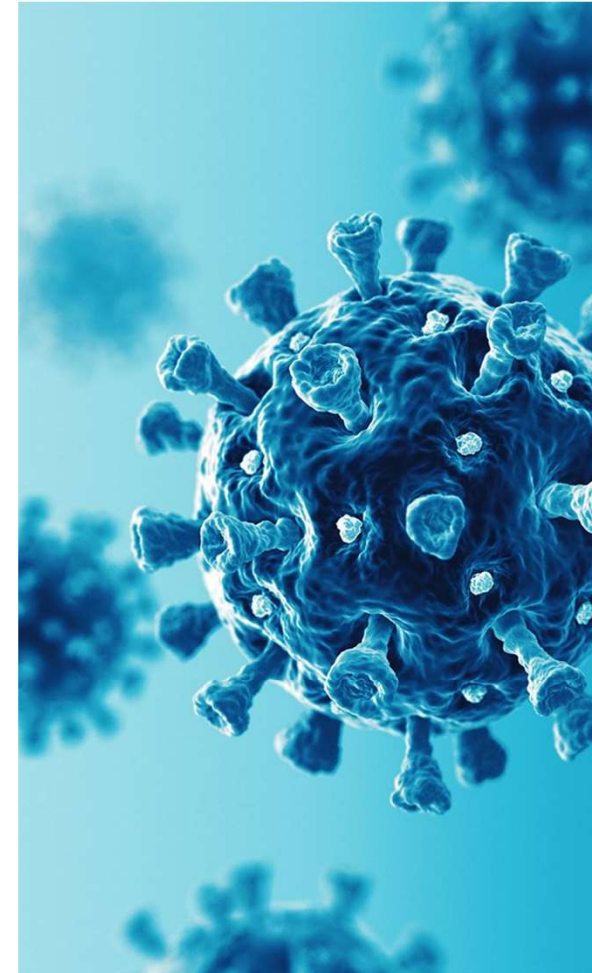
- 1. Software Development** - Generating code snippets, documentation, or test data.
- 2. Healthcare** - Creating synthetic medical images or patient data for research.
- 3. Finance** - Generating financial reports or market predictions.
- 4. Entertainment** - Crafting music, art, or virtual characters.
- 5. Customer Service** - Chatbots that respond to user queries.
- 6. Sales and Marketing** - Personalized content generation.
- 7. Fashion and Product Design** - Creating new designs.
- 8. Writing and Art** - Generating poems, stories, or visual art.



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Overview of Generative AI

1. Generative AI applications such as OpenAI **ChatGPT**, Microsoft **Copilot**, and **Stable Diffusion** have captured the imagination of people around the world.
2. These applications have **broad utility and can perform a range of routine tasks, such as the reorganization and classification of data.**
3. Generative AI technology is developing at a rapid pace, with **new large language models and improved capabilities** being released regularly.
4. **Foundation models**, which contain expansive artificial neural networks, **have enabled new capabilities and vastly improved existing ones** across a broad range of modalities.
5. Generative AI is poised to transform roles and boost performance across functions, unlocking trillions of dollars in value across sectors.



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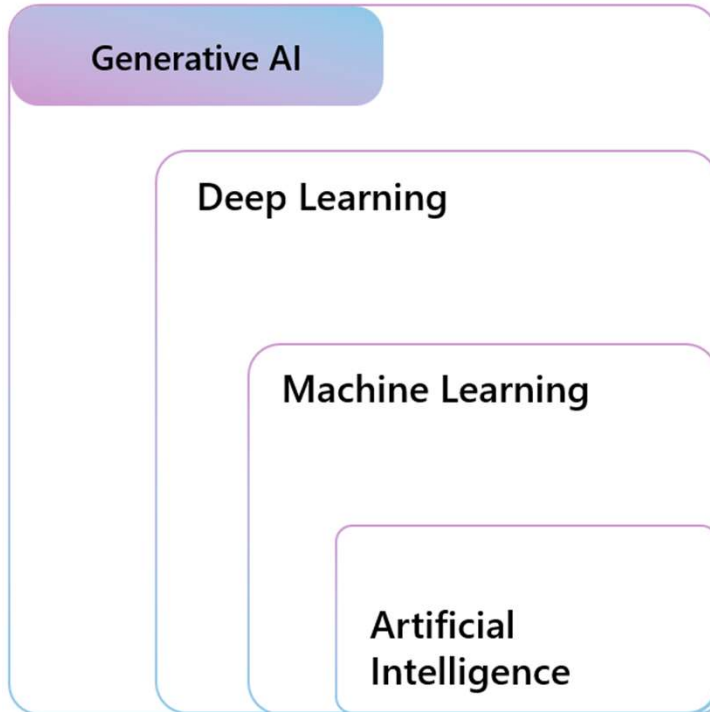
Brief History of Generative AI



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This is a new moment for AI, but first some history



2021

Generative AI

create new written, visual, and auditory content given prompts or existing data.

2017

Deep Learning

a machine learning technique in which layers of neural networks are used to process data and make decisions.

1959

Machine Learning

subset of AI that enables machines to learn from existing data and improve upon that data to make decisions or predictions.

1950s

Artificial Intelligence

the field of computer science that seeks to create intelligent machines that can replicate or exceed human intelligence.



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What changed in AI?

Exponential growth of hardware and advances in software finally allowed neural networks to become complex



Before (2022)

1. Good at playing chess and Jeopardy.
2. Mostly recognizers not generators – recognize a few things in an image, key words/concepts.
3. Chatbots are more like a menu selection.
4. Only usable by experts and researchers; usually each system is only good at one thing.
5. Used behind the scenes (e.g., optimizing inventory, directing ride-sharing, optimizing advertising).
6. Mostly limited to structured data (databases, forms, maps).
7. Progress measured in years. No one approach seemed to generalize.

Now (2022 onward)

1. Won art and photography competitions against humans.
2. Can generate language at a university graduate level on almost any topic.
3. Have passed most human tests very strongly (e.g., Legal exams).
4. Can pass coding tests for major corporations in minutes or help you write code.
5. Strong visual recognition and tracking of objects in images and video; can transform them.
6. Anyone can use via chat or even voice; can read documents and answer questions about them.
7. Progress made daily – faster, smaller, more accurate, safe



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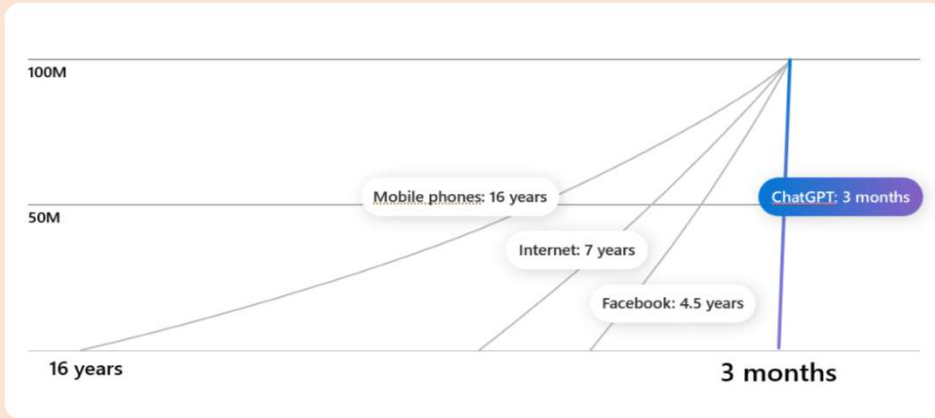
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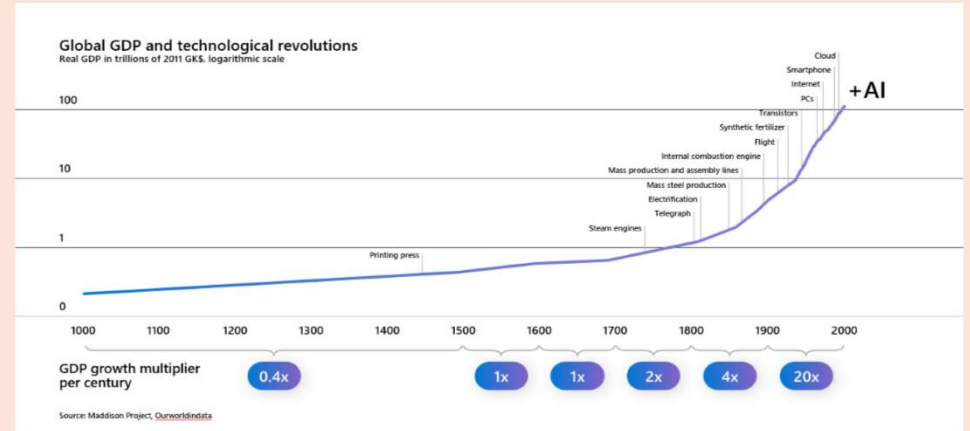


AI technology and impact

The AI technology is here
Time to reach 100M users



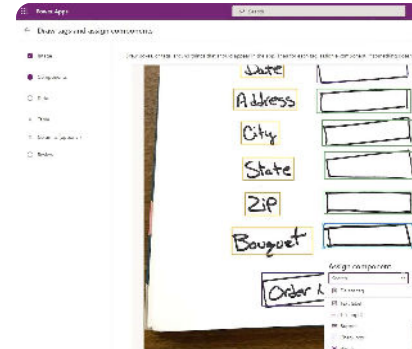
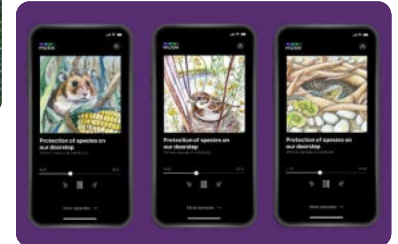
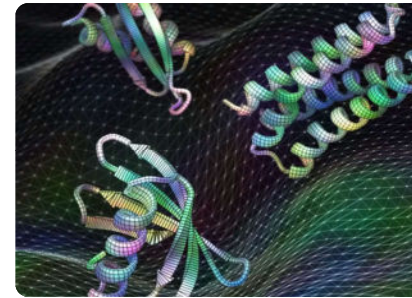
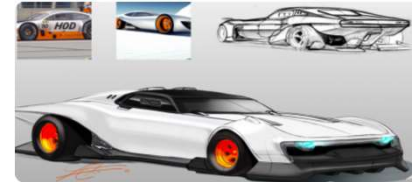
And the impact is real



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What can these new AI services do?

- ✓ **Natural language chatbots:** Everything from customer service to personalized tutoring to training for suicide prevention counselors.
- ✓ **Advanced search capabilities:** Searching not just for links, but for answers.
- ✓ **Generate text:** Emails, draft legislation, contracts, screenplays.
- ✓ **Real-time translation, transcription, analysis, and summaries of content** (audio, video, text).
- ✓ **Image recognition and generation.**



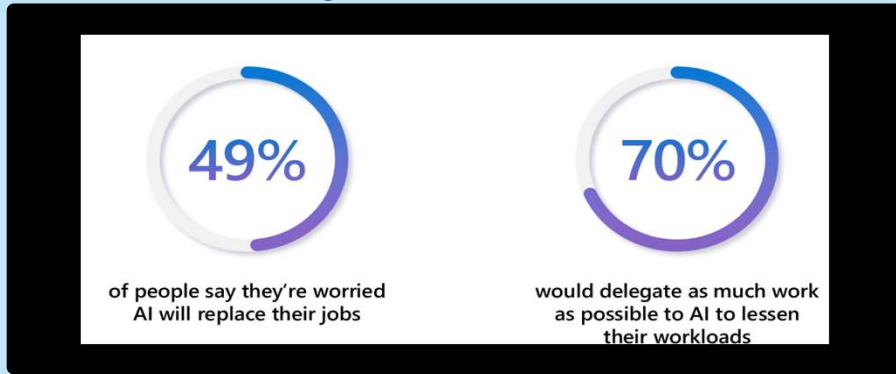
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AI Impact | The reality

Modern Work Trend Index Report finds that organizations need to invest in AI-driven solutions to stay competitive and that workers need to develop new skills to take advantage of the opportunities AI presents.

A new AI-employee alliance



Employees need AI aptitude



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Meeting the AI moment



AI is built and used responsibly and ethically



AI advances international competitiveness and national security



AI serves society broadly, not narrowly

Meeting the AI moment: advancing the future through responsible AI

Feb 2, 2023 | [Brad Smith - Vice Chair & President](#)



Early last summer, a small group of senior leaders and responsible AI experts at Microsoft started using technology from OpenAI similar to what the world now knows as ChatGPT. Even for those who had worked closely with the developers of this technology at OpenAI since 2019, the most recent progress seemed remarkable. AI developments we had expected around 2033 would arrive in 2023 instead.

Looking back at the history of our industry, certain watershed years stand out. For example, internet usage exploded with the popularity of the browser in 1995, and smartphone growth accelerated in 2007 with the launch of the iPhone. It's now likely that 2023 will mark a critical inflection point for artificial intelligence. The opportunities for people are huge. And the responsibilities for those of us who develop this technology are bigger still. We need to use this watershed year not just to launch new AI advances, but to responsibly and



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Considerations for using AI to increase effectiveness



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Impact of Generative AI on Jobs



Up to 300 million full-time jobs could be replaced by AI applications

- Report by Goldman Sachs

Hundreds of new job categories could be created

- Boost in global productivity by around 7% annually over 10 years

Uncertainty in navigating careers in an AI-enhanced world

- Opportunities for success by increasing comfort with technology



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Navigating the AI Risks



AI Misalignment with Human Values

- Issues such as data security vulnerabilities and amplification of human biases

Unintended Autonomous Decision-Making

- Existential threats cannot be ignored

Generative AI's Dual-Use Nature

- Can be employed for both beneficial and malicious ends

Strong Governance Policies and Oversight Mechanisms

- Advanced cryptographic solutions and third-party audits

Regulatory Bodies Worldwide

- Must establish cohesive safety guidelines and standards



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Surging quality of work when using AI



Researchers found AI improved output quality by over 40%

- AI used to generate ideas, conduct analysis, and craft documents

AI benefits remained significant across numerous statistical models

- Unambiguous proof of AI's ability to amplify human capabilities

Other research found similar results for individual professional tasks

- ChatGPT raises average productivity and decreases inequality between workers



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AI's Capability to Boost Productivity

Consultants completed their work 25% faster on average with AI assistance

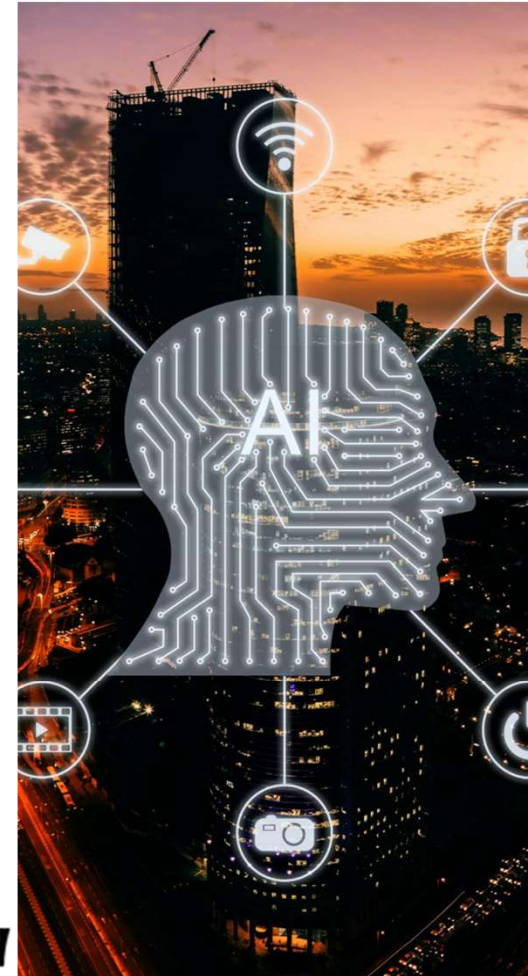
- Experiment involved brainstorming and developing product prototypes and market launch plans for shoes

AI helped participants finish 12.2% more sub-tasks and reach the final task question 22.5% faster on average

- Sub-tasks covered creativity, analysis, writing, and persuasion

AI provides massive productivity and efficiency boosts to highly skilled professionals

- Unlike previous automation focused on routine tasks, AI augments complex jobs



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Considerations for Companies and Business Leaders

Preventing negative use cases

- Ensure technology is not deployed in harmful ways

Sharing experiences with generative AI

- Transparently share experiences within and across industries
- Share experiences with governments and society



How to capture value while managing risks

- Quickly move to capture potential value at stake
- Manage risks presented by generative AI

Workforce transformation

- Occupations and skills needed will be transformed
- Enable transitions in hiring plans and retraining programs



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Considerations for Individuals

Concerns about the advent of generative AI

- Accurate, unbiased information for citizens
- Impact on lives and livelihoods

Balance of convenience and impact

- Impact on workplaces for individuals as workers and consumers

Having a voice in decision-making

- Shaping the deployment and integration of generative AI



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Organizational Best Practices



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Factors affecting the adoption of Generative AI by organizations



1. **Cost and Efficiency**
 - Assessing benefits vs expenses of GenAI-based systems
2. **Knowledge and Process-based Work**
 - High degree of knowledge and process-based work
3. **High Cloud Adoption**
 - Medium-to-high level of cloud adoption
4. **Low Regulatory and Privacy Burden**
 - Functions or industries with low regulatory scrutiny and data privacy concerns
5. **Specialized Talent**
 - Strong technical talent with new capabilities
6. **Intellectual Property and Licensing Agreements**
 - Ability to assess licensing/usage agreements and restrictions



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How organizations should approach preparing for AI



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Organizational Best Practices for using GenAI



Best practices to follow when using Generative AI to increase effectiveness and efficiency

Leveraging **Generative AI** effectively can significantly boost productivity and efficiency.

Here are some best practices to consider:

1. Human Oversight and Collaboration

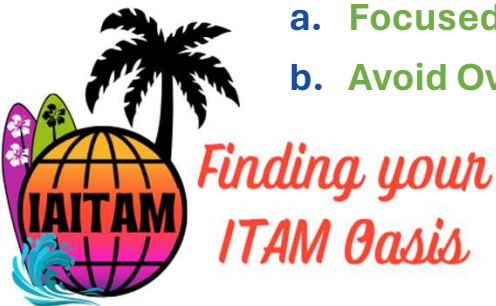
- a. **Involve Humans** – Combine with human expertise in parallel with human decision-making.
- b. **Control Quality** - Regularly review and validate the output generated by AI models.

2. Start with a Sandbox Approach

- a. **Pilot Projects** - Implement generative AI in controlled environments or pilot projects.
- b. **Expand Gradually** - Gradually expand its use based on successful outcomes.

3. Narrowly Define Use Cases

- a. **Focused Applications** – Leverage specific use cases where GenAI can provide immediate value.
- b. **Avoid Overgeneralization** - Keep applications narrow to ensure accuracy and relevance.



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Organizational Best Practices for using GenAI (Cont.)



4. Data and Context Matter

- a. **Quality Data** - High-quality training data is crucial for generative AI models.
- b. **Understand Context** - Consider the context in which AI operates to fine-tune its output.

5. Business Context and Impact

- a. **Align with Business Goals** - Ensure generative AI aligns with organizational objectives.
- b. **Quantify Impact** - Measure how generative AI affects productivity and effectiveness.

6. Predictive AI for Proactive Decisions

- a. **Anticipate Needs** - Use generative AI to predict future trends or customer behavior.
- b. **Strategic Planning** - Make informed decisions based on predictive insights.



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Organizational Best Practices for using GenAI (Cont.)



7. Responsible and Ethical Use

- a. **Bias Mitigation** - Address biases in generative AI models.
- b. **Transparency** - Be transparent about AI-generated content (e.g., disclaimers for chatbots)

8. Upskilling and Reskilling of the Workforce

- a. **Educate** - Training around security and compliance
- b. **Encourage** – Facilitate a culture of sharing and collaboration for the use of AI in everyday work



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Market Vertical Examples for using GenAI



Automate Content Creation

- **Industry:** Marketing and Advertising
- **Best Practice:** Use generative AI to create personalized marketing content, such as social media posts, ad copy, and email campaigns.
- **Example:** An e-commerce company uses generative AI to automatically generate product descriptions and promotional emails, freeing up marketing teams for strategic planning.

Enhance Customer Support

- **Industry:** Customer Service and Retail
- **Best Practice:** Deploy AI chatbots powered by generative models to handle routine customer queries.
- **Example:** A telecom company uses chatbots to provide instant responses to common customer inquiries, reducing wait times and improving overall customer satisfaction.



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Market Vertical Examples for using GenAI (Cont.)

Automate Report Generation

- **Industry: Finance and Business Analytics**
- **Best Practice:** Leverage generative AI to automate financial reports, performance summaries, and business insights.
- **Example:** An investment firm uses AI-generated reports to analyze market trends, portfolio performance, and risk assessments, allowing analysts to focus on strategic decisions.



Automate Code Generation

- **Industry: Software Development and IT**
- **Best Practice:** Generative AI can assist in writing code snippets, automating repetitive tasks, and suggesting optimal solutions.
- **Example:** Developers use AI-powered tools to generate boilerplate code, reducing manual coding effort and improving development speed.



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Individual Best Practices



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Individual Best Practices for using GenAI

Generative AI can significantly enhance your productivity in various work-related tasks



Leveraging **Generative AI** effectively can significantly boost productivity and efficiency.

1. Meeting Insights and Action Items

- **AI Note-Taking** - transcribe discussions and highlight action items.
- **Post-Meeting Summaries** - Automatically generate summaries with key takeaways and next steps.

2. Time Optimization

- **Calendar Prioritization** - Analyze your workload and suggest optimal time allocations for tasks & meetings.
- **Avoid Double-Booking** - Prevent overlapping appointments.

3. Automated Follow-Ups

- **Post-Meeting Follow-Ups** - Send follow-up emails or reminders after meetings.
- **Task Assignments** - Automatically assign tasks discussed during meetings

4. Meeting Efficiency Metrics

- **Analyze Meeting Data** - Evaluate meeting effectiveness, attendance patterns, and duration.
- **Identify Productive Meetings** - Use insights to improve future meetings.



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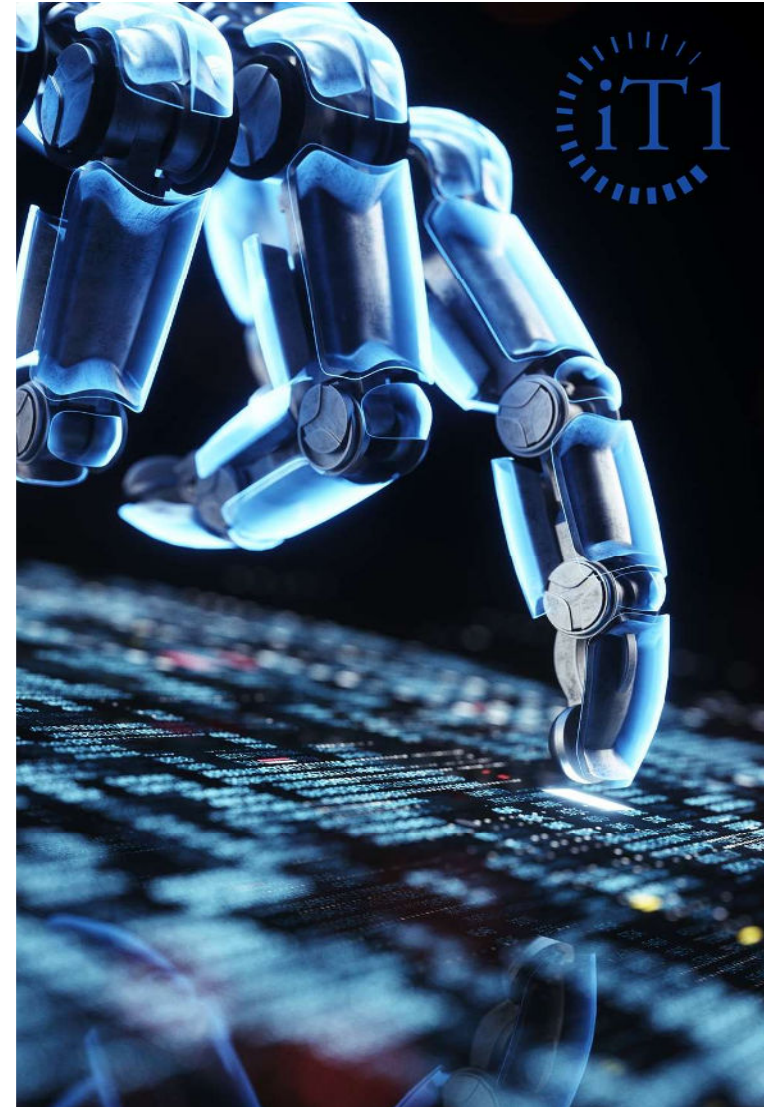
Integrate AI in Your Daily Work

- 1. Use AI as your own personal assistant**
 - Scheduling meetings
 - Managing routine emails
 - Organizing calendar
 - Reviewing or approving work
- 2. Leverage integrated AI features in productivity tools**
 - Microsoft Teams
 - Microsoft Word
 - Gmail
- 3. Respect the limitations of AI**
 - Struggles with nuanced decision-making
 - Resolving conflicts between team members



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Integrate AI in Your Daily Work

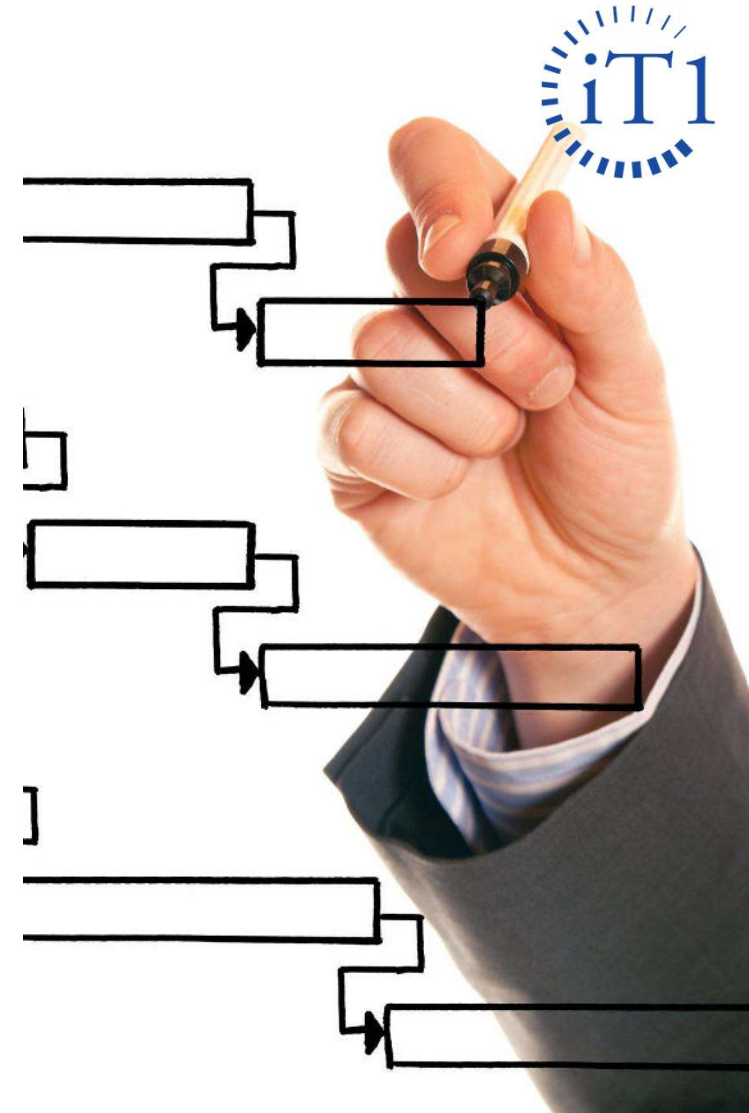
Project Planning and Management

ChatGPT: A Tool for Project Planning

- Easy to use - just input your goals and let it generate an action plan

Human Intervention: Necessary for Unique Challenges

- Adapting project plans to unexpected situations



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Integrate AI in Your Daily Work

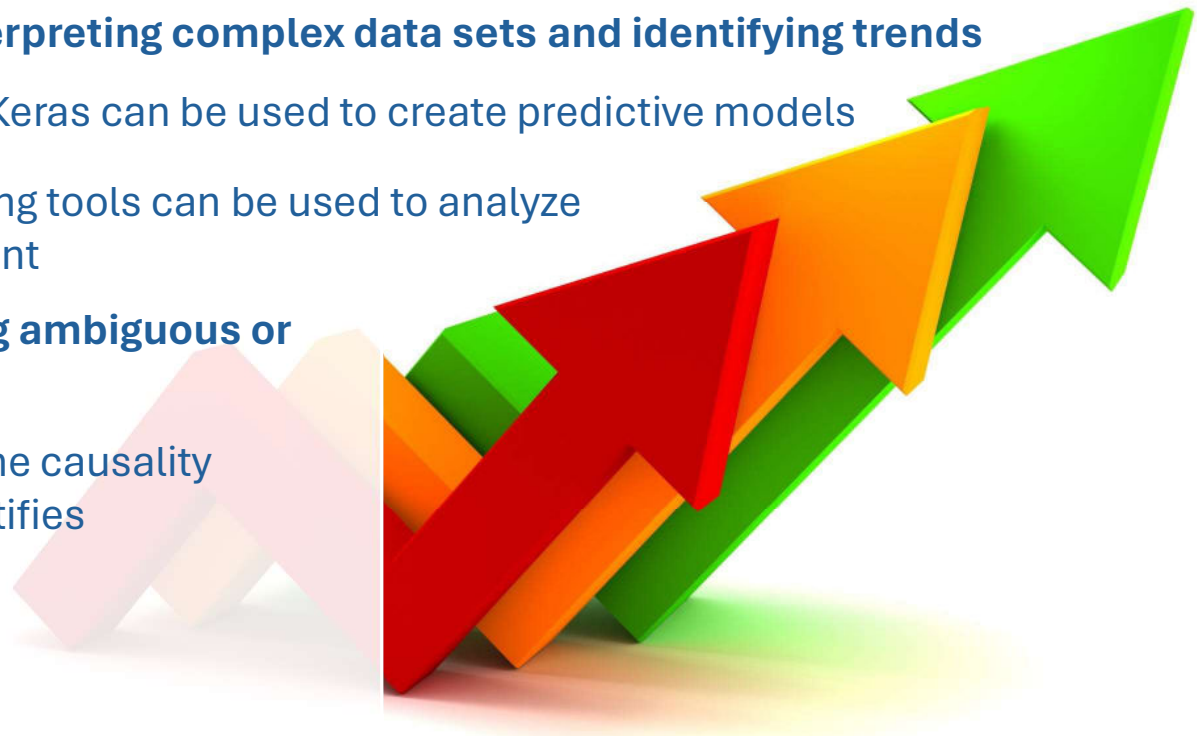
Data Analysis

Automates tasks such as interpreting complex data sets and identifying trends

- Tools like TensorFlow and Keras can be used to create predictive models
- Natural language processing tools can be used to analyze and interpret written content

May struggle with interpreting ambiguous or poor-quality data

- Cannot currently explain the causality behind the patterns it identifies



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Integrate AI in Your Daily Work

Research

Language-based AI interfaces such as ChatGPT or KOMO

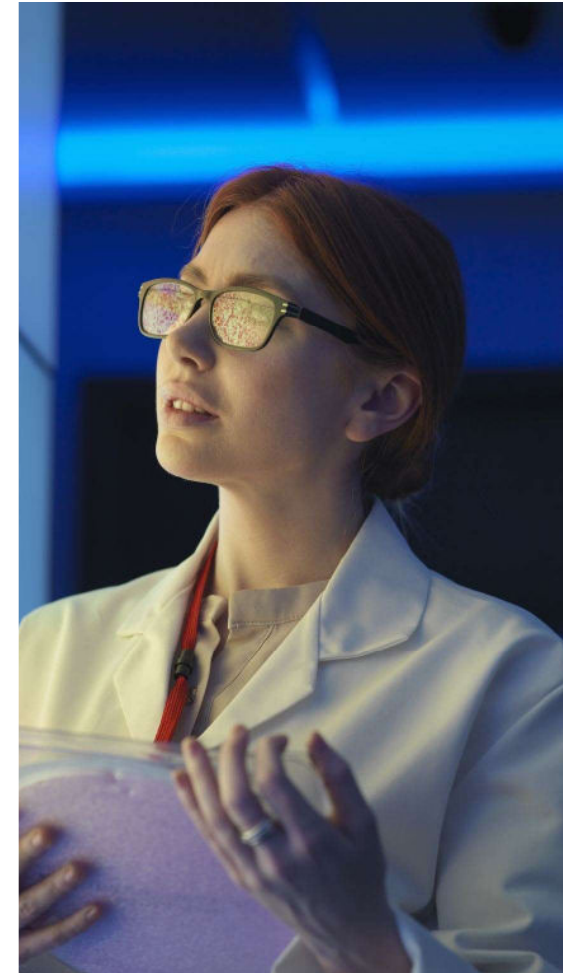
- Effective and faster than search engines for gathering sources and summarizing key information

Double-check the research AI provides against known, reputable sources

- These tools can be opaque about where they're getting facts from

AI is still limited in discerning the quality of its sources

- May sometimes fail to understand the nuanced context behind certain information



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Writing

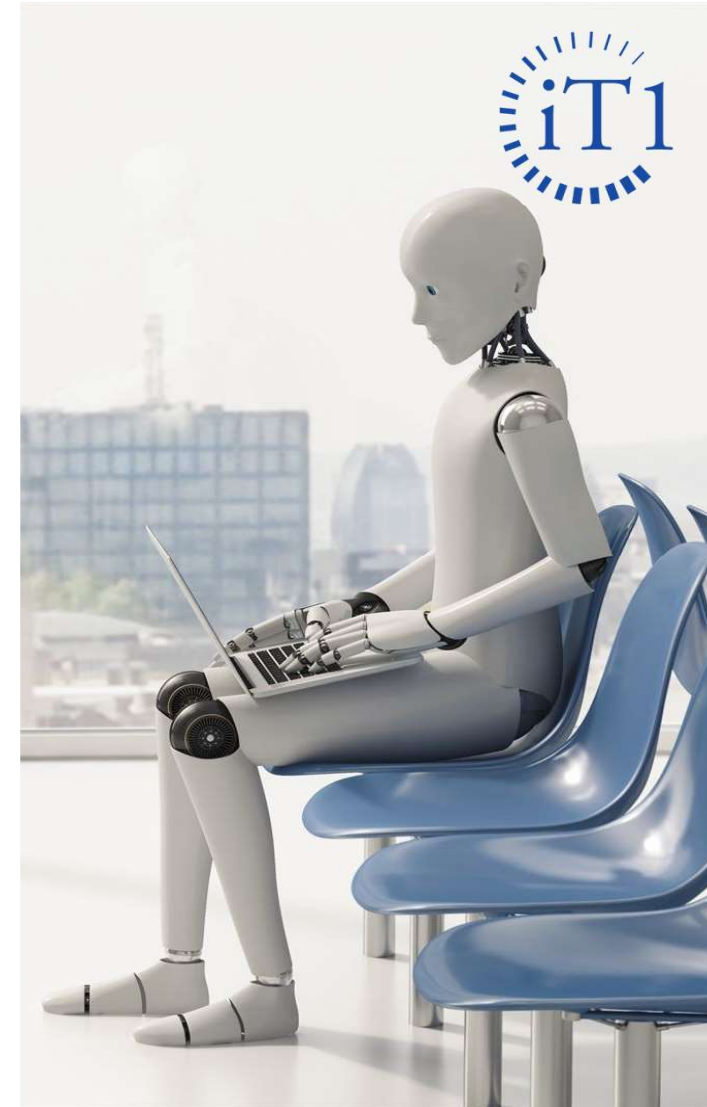
AI can assist in drafting research reports

- Provides structure and suggests content based on data analysis
- Can generate initial drafts for humans to refine and finalize

Tools like Grammarly use AI to improve writing quality

- Others like Quill or Automated Insights can generate written content from data

Creating a convincing report with nuanced insights is still largely a human task



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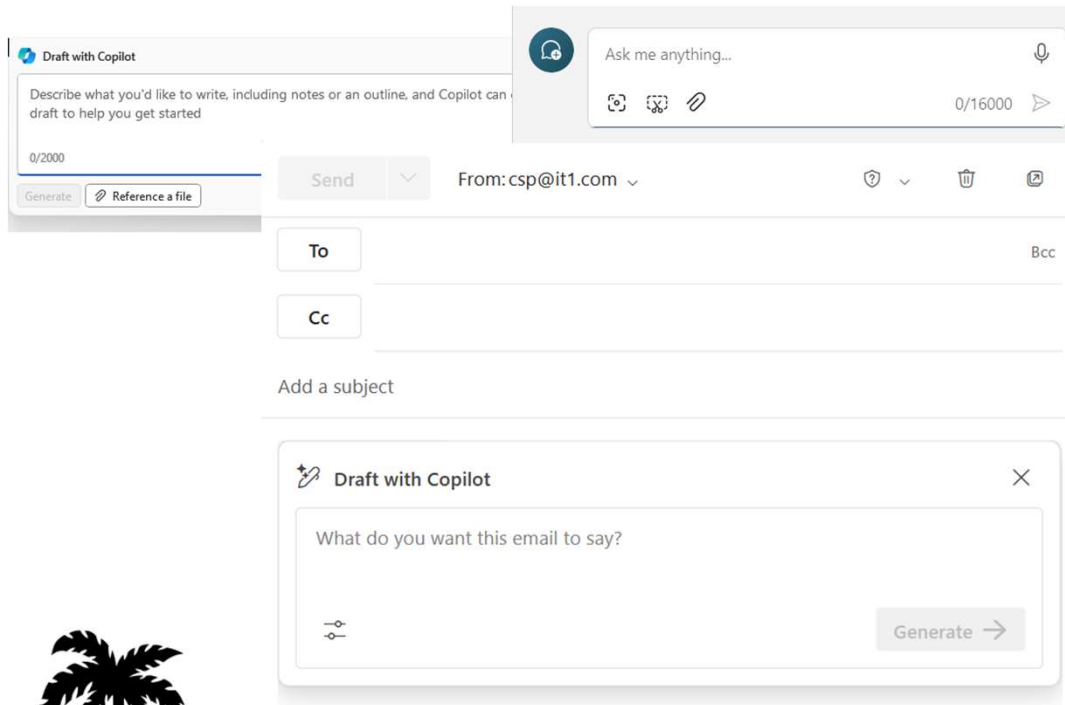
Writing effective AI prompts



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What is an AI “prompt”?



Get started by entering your question in the text box

1. A prompt is the question or instruction you enter in the text box. This is what Copilot will respond to.
2. Use natural language. Don't feel like you need to break your idea or question down into keywords.
3. Classic search is about keywords to get a list of sources. Chat is about using detailed questions or statements to generate a custom response for you.
4. Enter your prompt in the text box provided by Copilot in all contexts.



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What makes an effective AI prompt?

Effective

- ✓ Specific and detailed
- ✓ In full sentences, with instructions
- ✓ States the tone, purpose, preferred format, etc.

Example: *Recap the findings of the article I've copied below and include the top 3 concerns. Provide the answer in two to three paragraphs and use a business tone.*

Less Effective

- × Vague
- × Just a few words
- × No context on preferred output

Example: *Recap article.*

The recap may be more vague than desired, or in a format that you were not seeking.

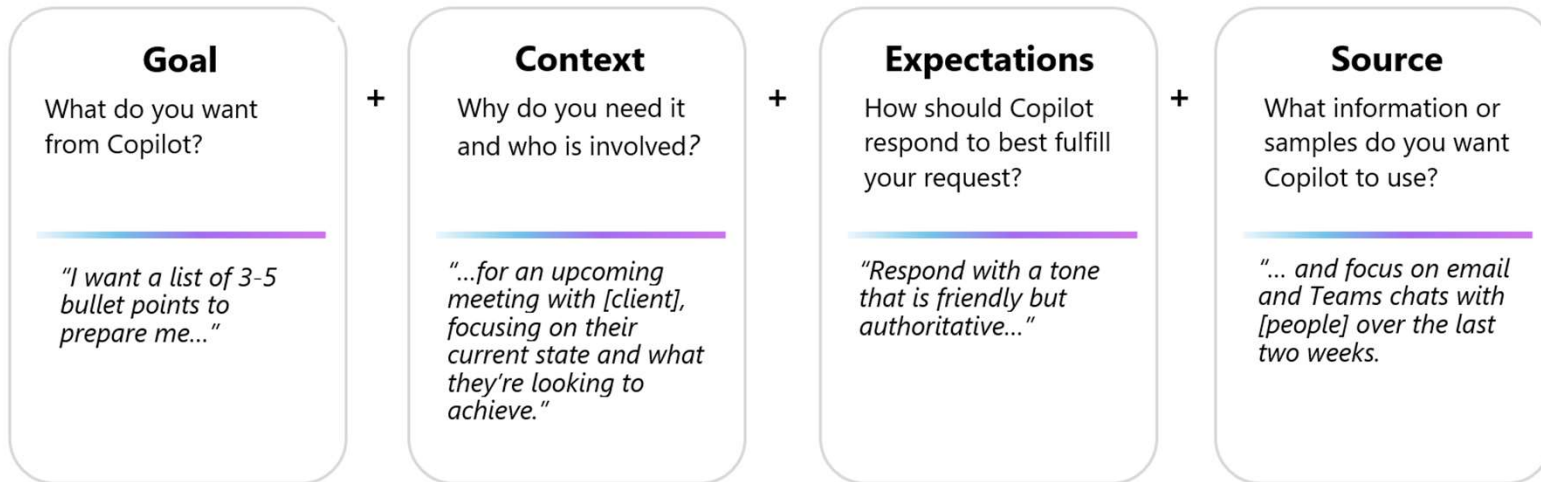
But there are no 'wrong' prompts because **natural, conversational language is not only welcome, it is encouraged!**

Source: [The art of the prompt: How to get the best out of generative AI](#) (Microsoft)



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How to maximize prompts to utilize generative AI



Recommended Guidance for Prompts

1. **Be specific and detailed**
2. **Provide some context** to help frame out your ask
3. **Be conversational**, generative AI is designed to understand text
4. **Be direct** to reduce the amount of interpretation
5. **Define your desired output and format**
6. You can continue to **refine the results through follow-up conversations**



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The structure of an effective AI prompt

Learn how to prompt AI

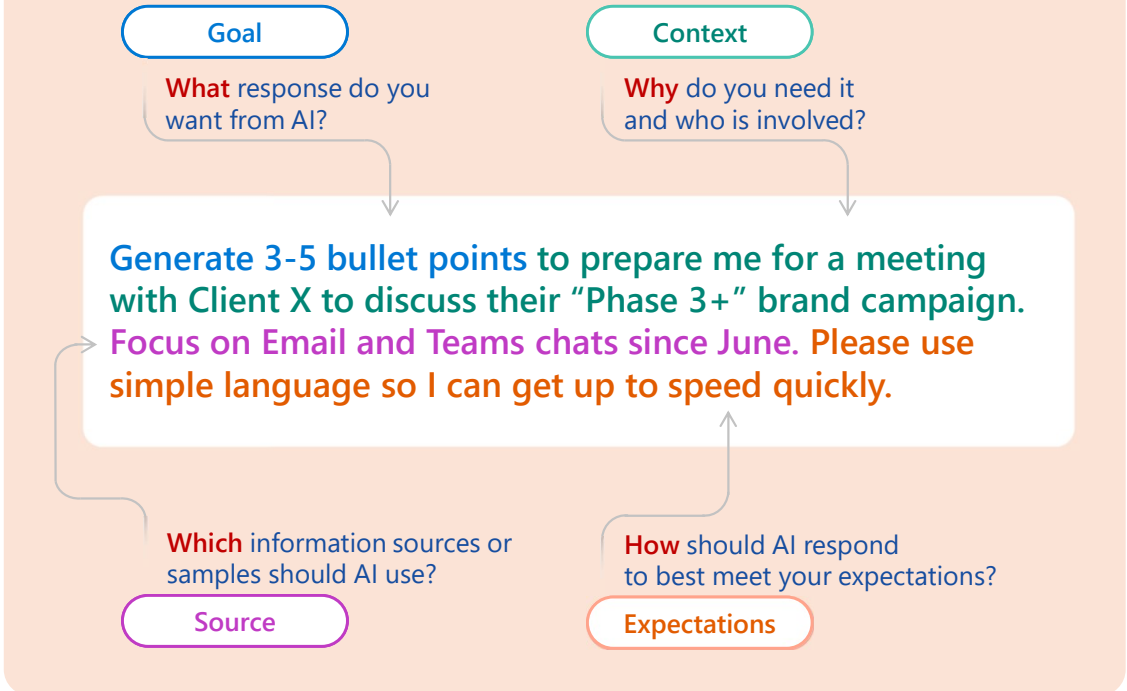
Prompting AI is the process of giving instructions or asking questions to AI in natural language.

You can prompt AI by typing your request in the AI prompt window.

To prompt Copilot effectively, follow the below best practices.

1. Use the default prompts provided in the menu for better results.
2. Use clear and specific language
3. Provide as much context as possible.
4. Review the Prompt guidance and Prompt elements for more information on how to use prompts effectively.


To get the best response, it's important to focus on some of the key elements below to get the best response from AI.



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 Your personal and company data are protected in this chat

One possible tip for drafting prompts for Bing Chat Enterprise is to use the right model for the right job. According to an article by Microsoft, "if you're looking for stories, poems, jokes or other imaginative answers, use the 'more creative' mode of Bing Chat. But if you're looking for just the facts, use the 'more precise' mode. This will yield succinct and fact-based responses". This way you can adjust the tone and style of your prompt to match your desired output from Bing Chat Enterprise.

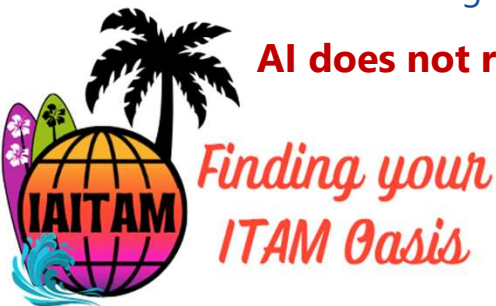
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● Sources are shown below the answer

AI aims to base its responses on reliable sources, but AI can make mistakes, and third-party content on the internet may not always be accurate or reliable. AI will sometimes inadvertently misrepresent the information it finds.

This is why AI is transparent and shows the sources of information behind its answers. Always check the sources before making decisions or taking actions based on the responses.

AI does not replace human judgment.



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Thank you!



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