



K2's Getting Started With AI



Learning Objectives



Identify the steps for querying data from tools such as Gemini and ChatGPT

List three capabilities of Microsoft's Copilot service

Differentiate between the capabilities of free and paid AI tools

Name some of the risks associated with AI



What is Artificial Intelligence? What are the major capabilities?

GETTING STARTED WITH AI

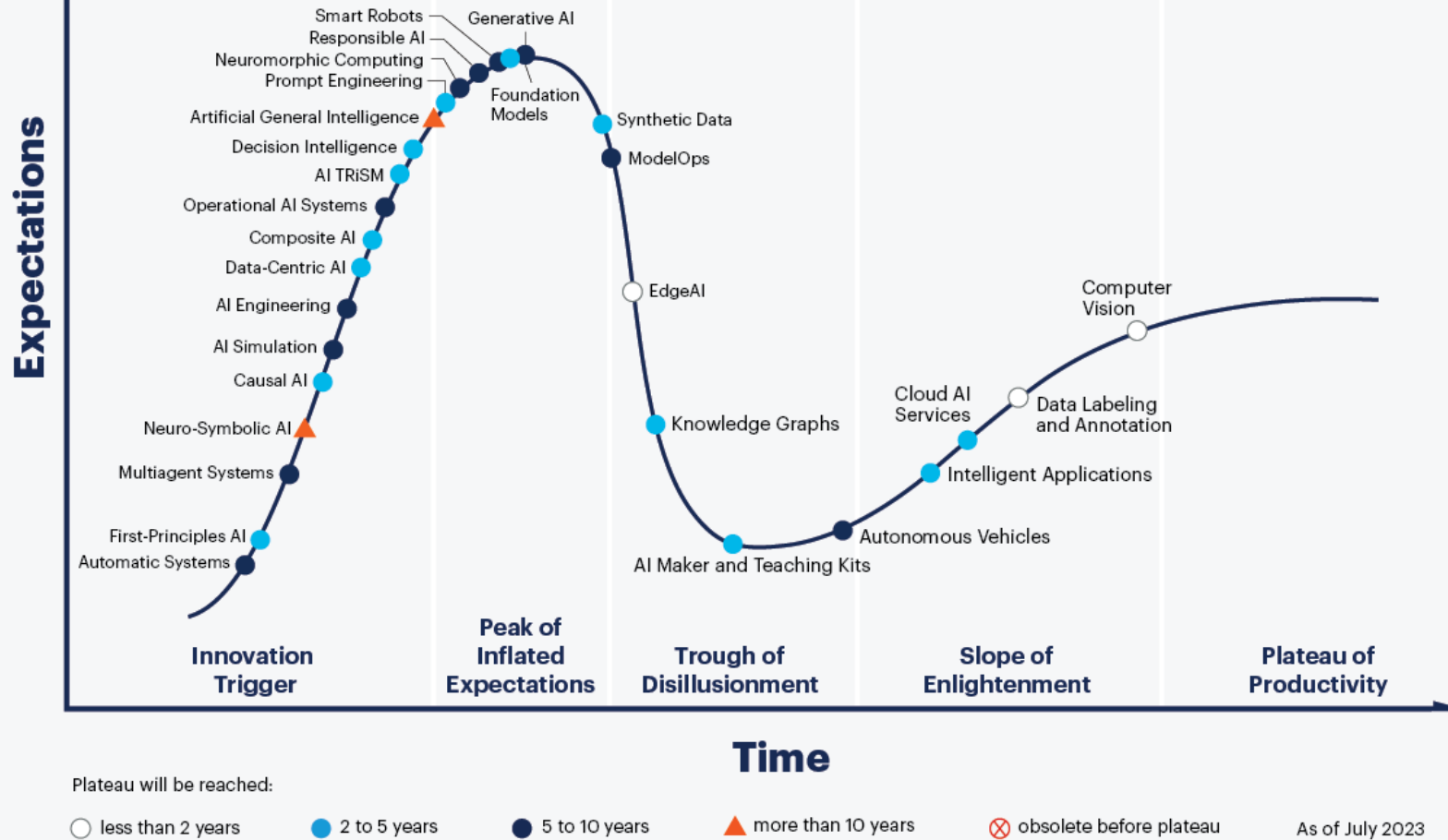
What Is Artificial Intelligence?



- Stated simply, **artificial intelligence (AI)** uses computers to **perform tasks that humans would perform otherwise**
- Some examples of AI applications include **machine learning (ML)**, **speech recognition**, and **analyzing data for trends**
- Notably, most who study the topic consider **ML to be a subset of AI**...further, almost every business professional uses ML, although many may not recognize that they use it
 - Adding rules to Outlook could be considered an example of ML



Gartner AI Hype Cycle



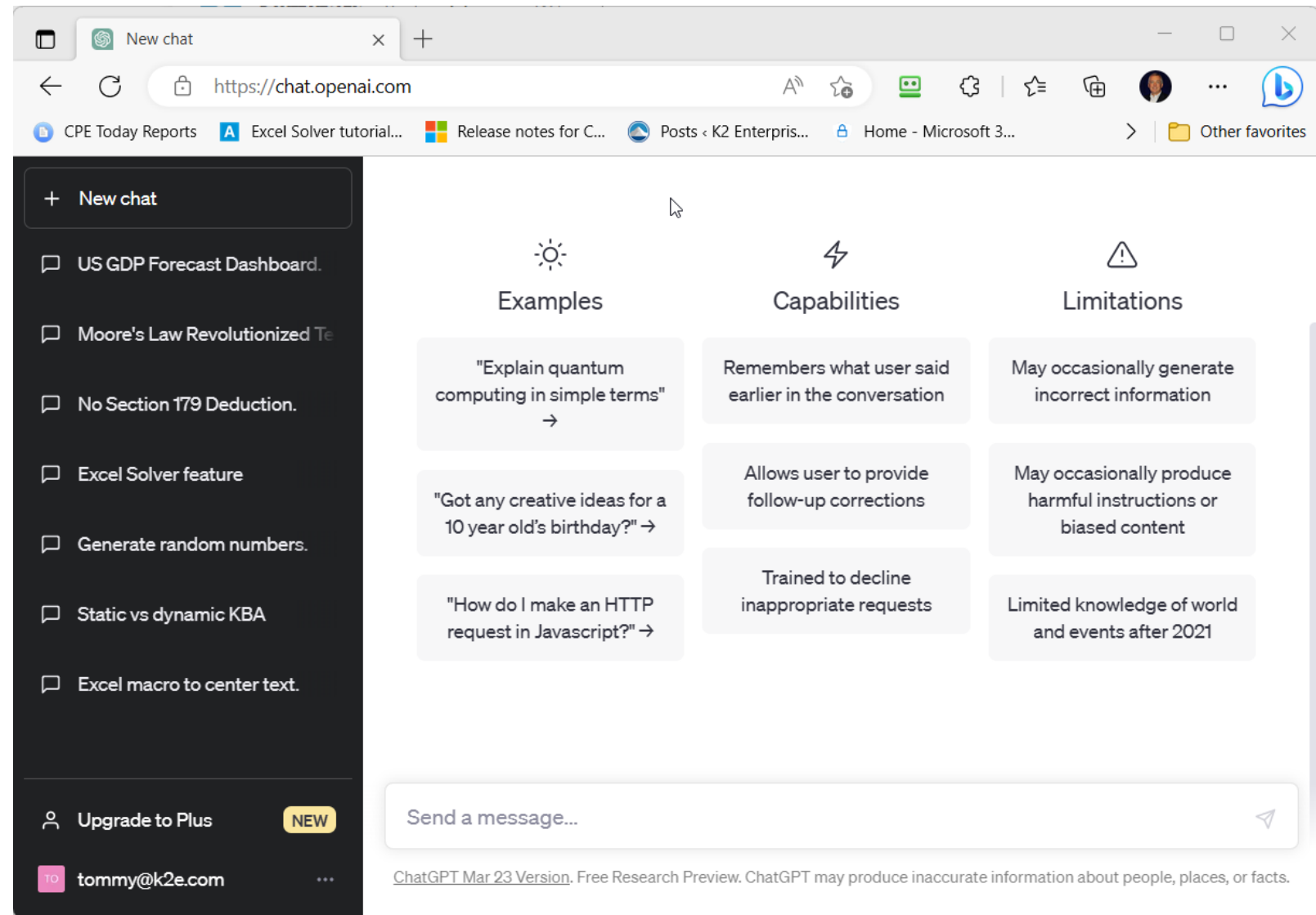
gartner.com

So, Why All The Recent Buzz About AI?

A 3D rendered model of a human brain, shown from a side profile. It is light blue and white, with detailed gyri and sulci. The brain is positioned in the center of the slide, behind the text.

Generative AI!

And The Latest Star Of The Show...



The screenshot displays the OpenAI ChatGPT web interface. On the left is a dark sidebar with a '+ New chat' button and a list of previous conversations: 'US GDP Forecast Dashboard...', 'Moore's Law Revolutionized Te...', 'No Section 179 Deduction.', 'Excel Solver feature', 'Generate random numbers.', 'Static vs dynamic KBA', and 'Excel macro to center text.'. At the bottom of the sidebar are 'Upgrade to Plus' and a user profile for 'tommy@k2e.com'. The main content area features three columns: 'Examples' with prompts like 'Explain quantum computing in simple terms', 'Capabilities' with features like 'Remembers what user said earlier in the conversation', and 'Limitations' with warnings like 'May occasionally generate incorrect information'. A 'Send a message...' input field is at the bottom, followed by a disclaimer: 'ChatGPT Mar 23 Version. Free Research Preview. ChatGPT may produce inaccurate information about people, places, or facts.'



What Is Generative AI?



- Conceptually, generative AI is quite simple...it is a form of AI **that allows technology to generate customized responses to your questions and prompts**
- Recent advancements in **Large Language Models (LLMs)** allow generative AI tools such as **ChatGPT** and **Gemini** to create responses to your questions
- It might be fair to **think of generative AI tools as turbo-charged search engines**

So, LLMs Must Be Important



- Absolutely, **LLMs are the backbone of generative AI tools**
- When properly trained on large data sets, **LLMs can understand, generate, and even predict human language**
- For example, **Gemini uses a model with 6,144 TB of data and 1.6 trillion parameters**
- By contrast, **GPT-4 Turbo has 7TB and 1,776 billion parameters**
- There is a tradeoff with LLMs...in general, **the bigger the data set, the better the capacity to learn more complex relationships between words**; however, large data sets require more computational capability...*Quantum Computing, anyone?*

Today's Biggest Generative AI Tools



ChatGPT (Open AI)

- Launched in **November 2022**
- Microsoft has invested **\$11B**
- The free version (3.5) was last updated in January 2022
 - **v4.0 in Plus \$20/mo.**
 - **Teams \$30/mo., Enterprise plan**
 - **GPT-4o (omni) new on 5/13/24**
- <https://chat.openai.com>

Gemini (was Bard by Google)

- Available in **March 2023**
- Like ChatGPT, you sign-up for a subscription
- Currently, **no charge** for Gemini Basic, but Gemini Advanced is \$19.99/mo. in Google One Premium subscription
- <https://gemini.google.com/app>

Today's Biggest Generative AI Tools



Copilot (Microsoft)

- Launched in **February 2023**
- Developed by **OpenAI**
- Microsoft has invested **\$10-20B**
- Initially launched as Bing Chat, now in Windows 11, M365
 - M365 \$30/mo., Enterprise plan
 - Free in Windows 11, Edge
 - Phi-3 new on 4/23/24
- <https://copilot.microsoft.com/>

Claude (Anthropic)

- Released in **March 2023**
- Amazon has invested **\$4B**
- Currently, **no charge** for Claude
 - **Claude Pro \$20/mo., Opus**
- <https://claude.ai/chats>

Today's Biggest Generative AI Tools



Perplexity AI

- Launched in **August 2022**
- In app citations, exceptional source referencing, real-time web access
 - **Pro Plan \$20/mo.**
 - **Can upload and analyze local files**
- <https://www.perplexity.ai/>

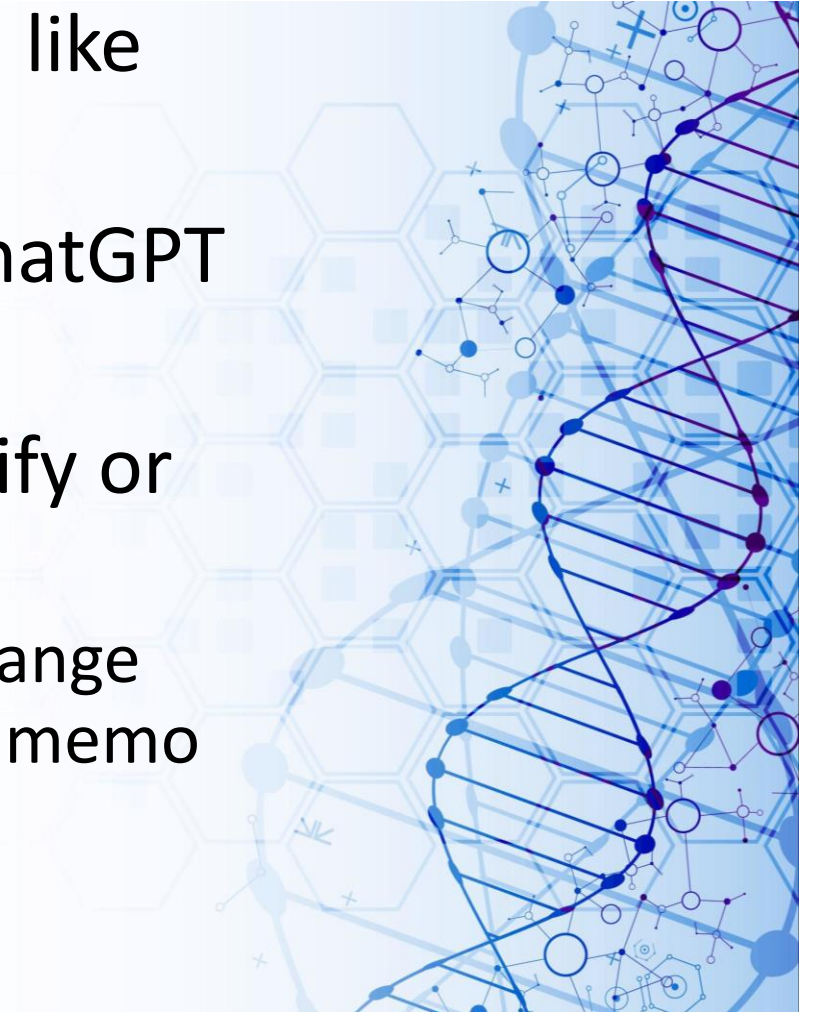
Llama (Meta)

- Released in **February 2023**
- Llama 3 in April 2024
- Currently, **no charge** for Llama, open-source
 - **Defense Llama from Scale AI**
 - **Lockheed Martin and Palantir**
- <https://www.meta.ai/>

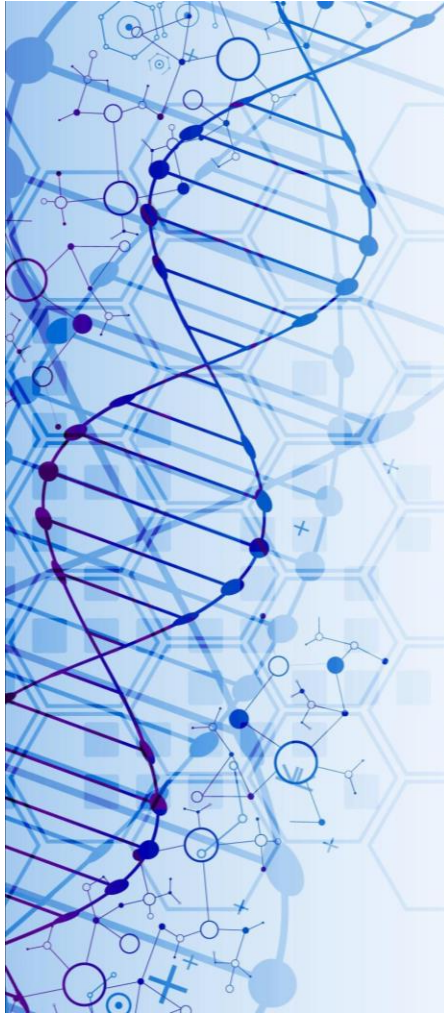
Working With ChatGPT



- In general, you will work in ChatGPT much like working with your favorite search engine
- That is, simply type in your request and ChatGPT will attempt to respond
- Once you type your request, you can modify or append it
 - For example, to include more details or to change the format from simple text to a bullet-point memo



Working With ChatGPT



- Should you decide to upgrade to **ChatGPT Plus**, the monthly subscription fee is \$20
- **With the Plus subscription, you will have access to GPT-4, priority access to new features, and faster response times**
- You can also browse, create, and use other GPTs
- **Further, you will have access to DALL-E, browsing, and Advanced Data Analysis**
- For \$5/user more (\$25 billed annually), Team lets you share your workspace, provides unlimited access, data is excluded from training, and has an admin console
- Finally, there is also an Enterprise version, known as **ChatGPT Enterprise**

Working With ChatGPT



- One very important option to configure in ChatGPT is **Custom instructions**
- To configure this option, **click the ellipses next to your name**
- Then **click Custom Instructions** and tell ChatGPT a little about yourself

Custom instructions ⓘ

What would you like ChatGPT to know about you to provide better responses?

I live in Woodstock, Georgia, a suburb of Atlanta.
I am a Certified Public Accountant.
I enjoy spectator sports, including Auburn University football. I also enjoy snow skiing, salt-water fishing, and spending time at the beach.

229/1500

How would you like ChatGPT to respond?

Call me Tommy.
ChatGPT should remain neutral in responses.
Responses should contain moderate degrees of detail and should be relatively formal.

144/1500

Enable for new chats ☒

Cancel Save

ChatGPT And Custom Instructions



- Consider the response below received from ChatGPT after the Custom Instructions shown in the previous slide were entered into the system



data security issues and artificial intelligence



Certainly, Tommy. The intersection of data security and artificial intelligence (AI) is a topic of considerable importance. As a Certified Public Accountant, you likely appreciate the significance of safeguarding sensitive information, especially in the context of evolving technologies like AI.

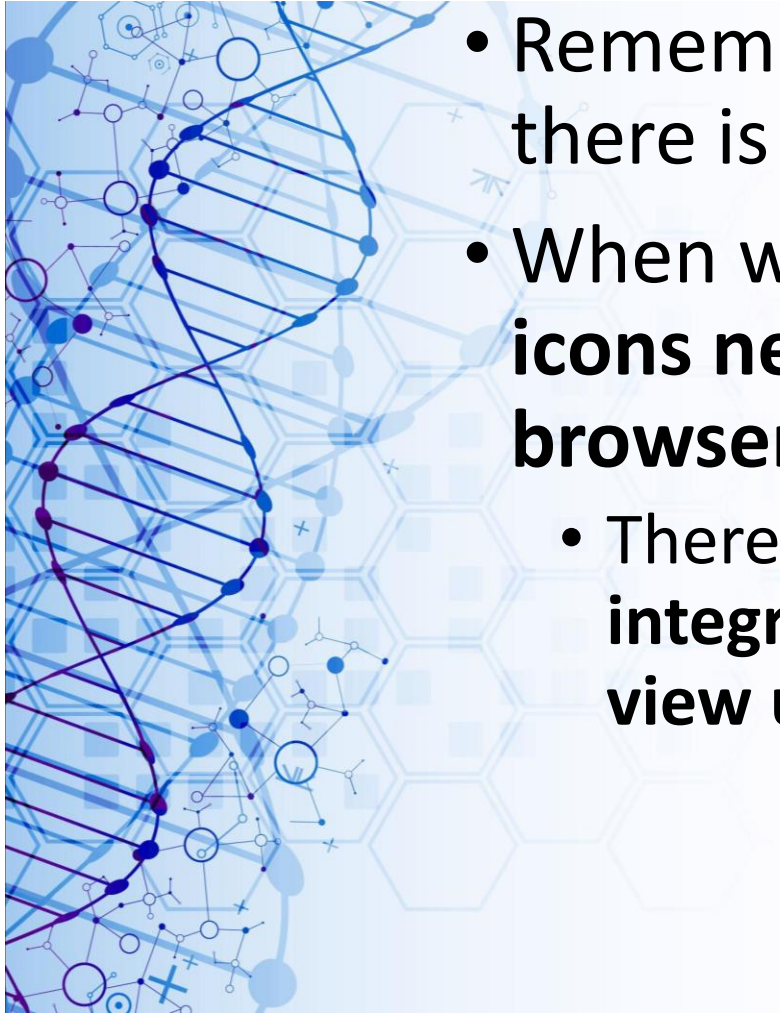
Working With Gemini



- In general, **working with Gemini will closely resemble working with ChatGPT**
- Again, **type in your request, and Gemini will respond** accordingly
- **Gemini uses an updated data set, capable of generating responses based on more recent data than ChatGPT 3.5**



Working With Gemini



- Remember, there is a free plan for Gemini and there is also a paid subscription available
- When working with Gemini, **pay attention to the icons near the upper, right corner of your browser's window**
 - There you can **view a history of your queries, integrate with Google apps, access help and FAQs, view update history, and manage settings**



LET'S GO INTO DEMO MODE...

Generative AI In Tax & Accounting



- So far, the examples presented have centered around “generic” searches, similar in some regards to those that could have been performed using search engines
- Now, let’s move forward into **using generative AI in tax and accounting scenarios**

Tax Return Engagement Letter

The engagement letter partially pictured to the right was created by prompting Gemini with the phrase “***Tax Return Engagement Letter for an S Corporation...***”



Draft 1	Draft 2	Draft 3
Tax Return Engagement Letter	Tax Return Engagement Letter for an S Corporation	Tax Return Engagement Letter for an S Corporation
Client Name: Address:	[Client Name] [Client Address]	[Date]

Tax Return Engagement Letter for an S Corporation

[Date]

[Client Name]
[Client Address]

Dear [Client Name],

This letter is to confirm and specify the terms of our engagement with you to prepare the federal and state income tax returns for [Year] for [S Corporation Name].

Services to be Provided

We will provide the following services:

- Prepare the federal and state income tax returns for [Year] for [S Corporation Name], based on the information and documentation you provide to us.
- Review the returns with you before you file them.
- Answer any questions you have about the returns or tax planning.

Tax Return Engagement Letter



- Of course, you could simply **paste the text into your word processing application** and edit it to meet your specific needs
- Additionally, **note that Gemini provided three different versions of the engagement letter** and you could choose which version you want to use as your template



Tax Research

Like the previous example, you could enter the phrase “***does computer software qualify for Section 179 expensing***” into ChatGPT (3.5) and receive the response indicated to the right

Default (GPT-3.5)



As of my last knowledge update in January 2022, Section 179 of the United States Internal Revenue Code allows businesses to deduct the cost of certain types of property, including certain types of software, as an expense rather than requiring the cost to be capitalized and depreciated over time. This is known as "Section 179 expensing."

However, the specific eligibility of software for Section 179 expensing can depend on the nature of the software and how it is used in your business. Generally, software that is considered off-the-shelf or "canned" software, which is readily available for purchase by the general public, is eligible for Section 179 expensing.



Get citation

Tax Research



- **What if you need more details** in the responses you receive from your query?
 - **Tell your AI tool to provide that level of detail to you!**
- For example, consider the following prompt entered into Gemini
 - *I'm researching the impact the Secure Act 2.0 has on 401(k) plans. In a bullet point list, provide the most relevant verbatim excerpts from the document, with a citation at the end of each quote to the exact section to find the excerpt in the results*

Tax Research Results

*(generated by
Gemini)*

Impact of the Secure Act 2.0 on 401(k) plans:

- **Automatic enrollment for new plans:** Beginning in 2025, all new 401(k) and 403(b) plans will be required to automatically enroll eligible employees at a default contribution rate of between 3% and 10% of their compensation. The default rate will increase by 1% each year until it reaches at least 10%, but not more than 15% of compensation. Employees will have the option to opt out of automatic enrollment. (SECURE Act 2.0, Section 101)
- **Expanded participation for part-time workers:** Beginning in 2025, employers will be required to allow long-term, part-time workers to participate in their 401(k) plans. A long-term, part-time worker is defined as an employee who has worked at least 500 hours per year for three consecutive years. (SECURE Act 2.0, Section 102)
- **Increased age for required minimum distributions (RMDs):** The age at which participants must begin taking RMDs from their 401(k) plans has been increased from 72 to 73, effective for plan years beginning after December 31, 2022. The age will increase to 75 for plan years beginning after December 31, 2032. (SECURE Act 2.0, Section 103)
- **Reduced penalty for failing to take RMDs:** The penalty for failing to take an RMD has been reduced from 50% to 25% of the RMD amount. This penalty applies to RMDs that are not taken in a timely manner, but it does not apply to RMDs that are missed altogether. (SECURE Act 2.0, Section 104)



Responding To IRS Notices



- Another useful application of generative AI tools such as ChatGPT and Gemini is their capability to **create drafts of responses to tax notices and other correspondence**
- For example, consider an IRS CP-12 notice, indicating the taxpayer owes \$1,000 and you believe the IRS is in error
- You could enter the phrase ***“Respond to IRS CP-12 where John Jones owes \$1,000 and disagrees with the IRS”***

Creating Responses To IRS Notices

(generated by ChatGPT)



1. Review the Notice:

Carefully go through the CP-12 notice to understand the specific details of the IRS's claim. Verify the tax period and the nature of the adjustment.

2. Gather Documentation:

Collect all relevant documentation, including tax returns, receipts, and any supporting documents that can substantiate John Jones's position. This will be essential in building a case against the IRS's claim.

3. Contact the IRS:

Reach out to the IRS using the contact information provided on the CP-12 notice. Explain the reasons for the disagreement and provide supporting documentation. It's advisable to remain calm and professional during any communication with the IRS.

4. Certified Mail:

If you choose to send additional information or documentation, consider using certified mail with return receipt requested. This will provide proof of both the sending and receiving of your documents.

5. Request an Appeals Conference:

If the disagreement persists, John Jones may have the option to request an appeals conference. This involves presenting the case to an independent IRS officer who will review the matter impartially.

6. Seek Professional Assistance:

As a Certified Public Accountant, you might want to consider leveraging your expertise or

Creating Responses To IRS Notices



- Although the guidance provided in the previous slide might be helpful, particularly to less-experienced staff, you may have been hopeful of getting a draft of the **actual response letter** created by your AI tools
- Modifying your request to “*Create a response letter to IRS CP-12 where John Jones owes \$1,000 and disagrees with the IRS*” generates the draft response indicated on the next slide

Creating Responses To IRS Notices

*(generated by
ChatGPT)*



I hope this letter finds you well. I am writing in response to CP-12, which indicates that John Jones owes \$1,000, a claim he disputes.

Upon reviewing the notice, we respectfully disagree with the proposed adjustment. We have conducted a thorough examination of the relevant tax period and have gathered supporting documentation to substantiate our position.

Enclosed, please find copies of the tax returns, receipts, and any other pertinent documents that support our claim. We believe that these materials will provide clarity on the matters in question. We request that you review this information in reconsidering the proposed adjustment.

If necessary, I am open to further discussions or meetings to discuss this matter in detail. Additionally, I would appreciate guidance on any specific procedures or documentation required to facilitate a resolution.

Please be advised that we have also retained copies of this correspondence for our records.

Thank you for your prompt attention to this matter. We look forward to resolving this issue amicably.

Sincerely,

[Your Full Name]

Microsoft Copilot



- **Copilot** is an AI-based platform that works much like a personal assistant and is powered by **ChatGPT-4**
- Copilot is available in **Windows 11** and you can enable it by going to **Settings, Personalization, Taskbar, and toggling the Copilot toggle switch “ON”**
- You can also access Copilot in the Edge browser using a feature known as **Bing Chat**
 - Open the Edge browser and enter a search phrase
 - Edge populates a pane on the right side of the Window with the search response

Microsoft Copilot



- Once you enable Copilot, you can use it to access ChatGPT-4 by clicking the Copilot icon in the Taskbar and typing your topic of interest, such as “***compare the advantages and disadvantages of operating as an S corporation from an income tax perspective***”
- Beyond the free subscription, you can elect a **paid subscription (\$30 per month) to Copilot Pro**
- Pro adds **better performance, faster creation of images**, along with **some integration** with Word, Excel, PowerPoint, Outlook, and OneNote

Microsoft Copilot



Question

Compare the advantages and disadvantages of operating as an S corporation from an income tax perspective.

- ✓ Searching for: advantages and disadvantages of S corporation from an income tax perspective
- ✓ Generating answers for you...



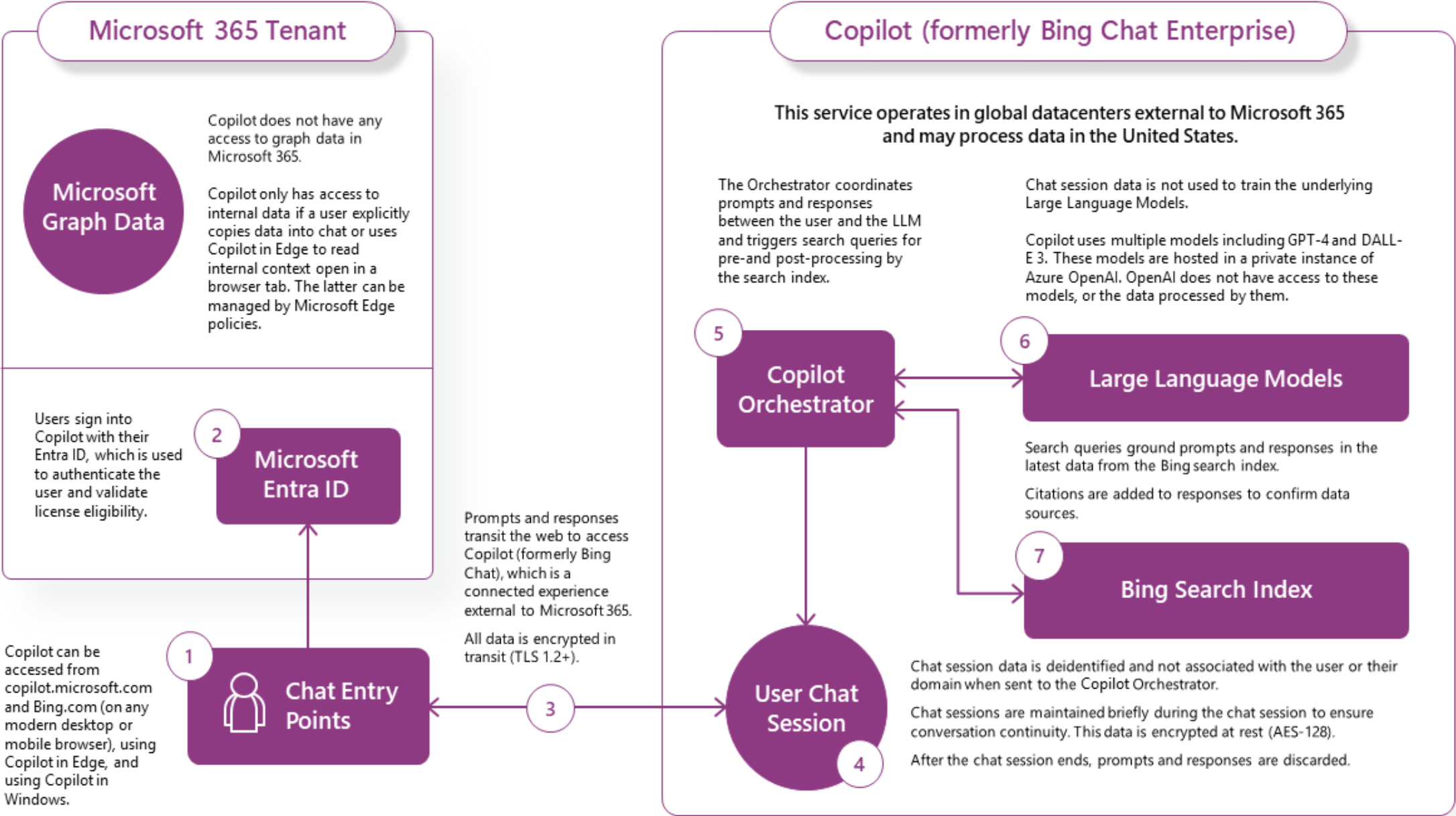
Response

Operating as an S corporation from an income tax perspective has both advantages and disadvantages. Here are some of the main points to consider:

Advantages:

- **Avoidance of double taxation.** The earnings of an S corporation are only taxed once, at the level of its shareholders. This is significantly better

Copilots And Data Protection



Copilot For Microsoft 365



- A paid subscription to Copilot also integrates with Microsoft 365, where you can use it to do things such as:
 - Automatically respond to emails
 - Create PowerPoint presentations from Word documents
 - Summarize threads of email messages
 - Summarize Chat content from a thread of messages
 - Create transcripts of meetings
- Copilot became generally available as a subscription tool on 11/1/23 for companies with more than 300 Microsoft 365 users

Copilot Is Now Available For Most Business-Oriented 365 Subscribers



- **In January**, Microsoft announced the removal of the 300-license restriction!
- The cost of the paid subscription is **\$30 per month**, but you still **must have a qualifying Microsoft 365 subscription** (Microsoft 365 Business Standard, Business Premium, E3, E5, Office 365 E3, or E5)

Other AI Tools You Should Consider



- **Grammarly**, for improved writing
- **Originality**, to test for copyright infringement/plagiarism
- **Excel's Analyze Data and Insights in Power BI**, to identify “items of interest” in data sets
- **FORECAST.ETS** and **Forecast Sheets** in Excel
- **MindBridge** for fraud detection

Are There Dangers With AI?

Absolutely!



Biased
Outputs

Copyright
infringement

Data privacy

Data security

Deepfakes

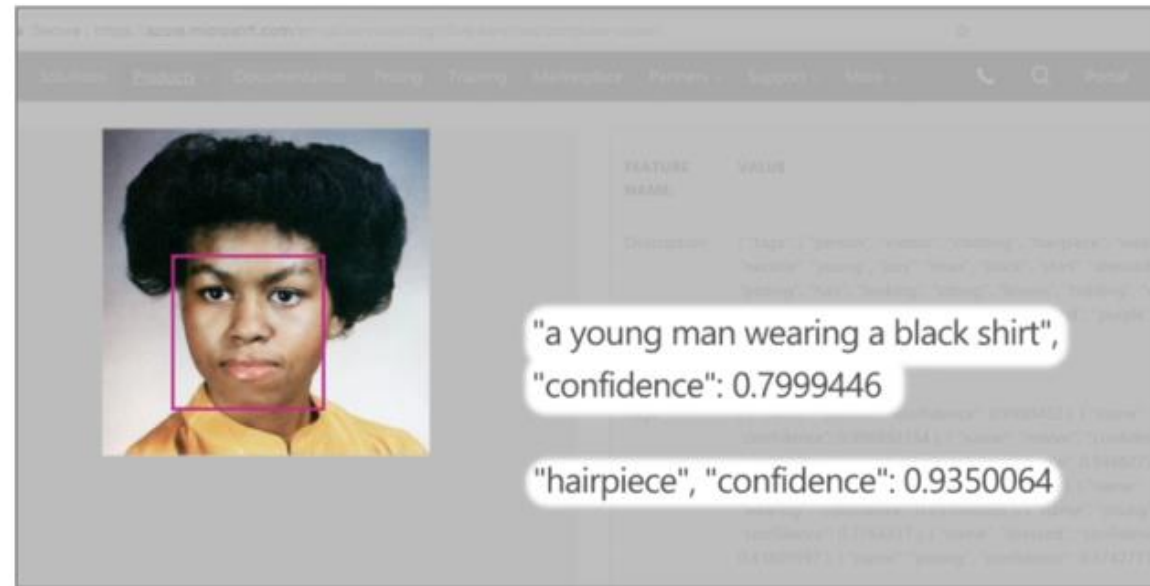
Hallucinations

Biased Outputs



- AI systems can be biased, either **intentionally or unintentionally**
- Bias can exist around any factor, including personal ones such as race, gender, and age
- For example, consider the case of **Michelle Obama**

Michelle Obama



Copyright Infringement



Who owns the copyright to materials generated by AI?

Response, Per ChatGPT

Generally, the entity or individual that creates the AI-generated content is considered the copyright owner. However, this may vary based on jurisdiction and specific contractual agreements.

Response, Per Gemini

In the United States, the Copyright Office has stated that it will not register works that were created by an autonomous AI tool. This means that, under current US law, AI-generated works are either in the public domain or they are derivative works of the materials that the AI was trained on.

Copyright Infringement



New York Times Has Sued MSFT & OpenAI!

- In December, NYT sued Microsoft and ChatGPT's parent company, OpenAI
- The Times alleges *“mass copyright infringement”*
- The Times continues with *“These tools were built with and continue to use independent journalism and content that is only available because we and our peers reported, edited, and fact-checked it at high cost and with considerable expertise”*
- One example provided by the Times OpenAI's software producing almost identical text to a Times article about predatory lending practices in New York City's taxi industry

Data Privacy



- Consider the type of data you might “feed” into an AI tool or platform. How comfortable are you that sensitive data remains private and not identifiable back to an individual or an organization?
- Other issues include
 - Is there informed consent about collection and use
 - The threat of exposing sensitive data through a breach or attack
 - Lack of transparency regarding use of an individual’s or organization’s data

Data Security



- Like other large caches of data, the **data stored in AI tools and platforms can present an inviting target because of the private nature of the data**
- Additionally, a general lack of human oversight can increase the vulnerability of the data
- Moreover, **the complexity of AI systems presents challenges concerning storing and protecting sensitive data**
- In fact, as reported on 11/10/23, Microsoft temporarily blocked team members from using ChatGPT due to security concerns

Deepfakes



- **Deepfakes involve using AI to generate realistic images, audios, and videos so that they appear to represent an authentic person engaging** in some activity in which the person did not engage
- For example, a deepfake exists that appears to show Mark Zuckerberg bragging that he has control of data stolen from billions of people
- You can see some outstanding – and scary! – examples of deepfakes on YouTube at <https://k2e.fyi/deepfakes>

Hallucinations



- Like humans, **AI is not perfect!**
- Sometimes, AI “hallucinates” and generates a faulty response that seemingly does not represent the data
- Often, **these hallucinations are based on anomalies in the AI model or issues associated with training the model**
- As an example, **Gemini incorrectly asserted in February 2023 that the Webb Space Telescope took the first image of a planet outside the solar system...in fact, the pictures of an exoplanet were taken in 2004**

Summary



- Generative AI is truly a **game-changer for virtually everyone!**
- Consider the impact of generative AI tools such as **ChatGPT**, **Gemini**, and **Copilot** on how you work
 - How can you use these tools for improved efficiency and productivity?
 - How can these tools help to free team members from mundane tasks?
 - What are some potential negative impacts of implementing generative AI tools?
- No doubt, AI has come a long way in just two short years...
imagine what AI will be ten years from now!