

**Wenatchee Valley Continuing  
Education**

# Artificial Intelligence for Everyday Use

**Introduction to Prompt Engineering**  
**February 1, 2025**



**ChatGPT Dall-e**

# Welcome!



**Becky Peltz**

**Software Developer/Educator**

# Agenda

Introduction

Tools: Getting to know ChatGPT

Technology Timeline

AI Basics and Terminology

Prompt Engineering Hands On

Working Through Use Cases

More Tools and Inputs

Recap

# Introduction: Becky's Employers



# Introduction: Where Becky Taught



# Introduction: Hobbies



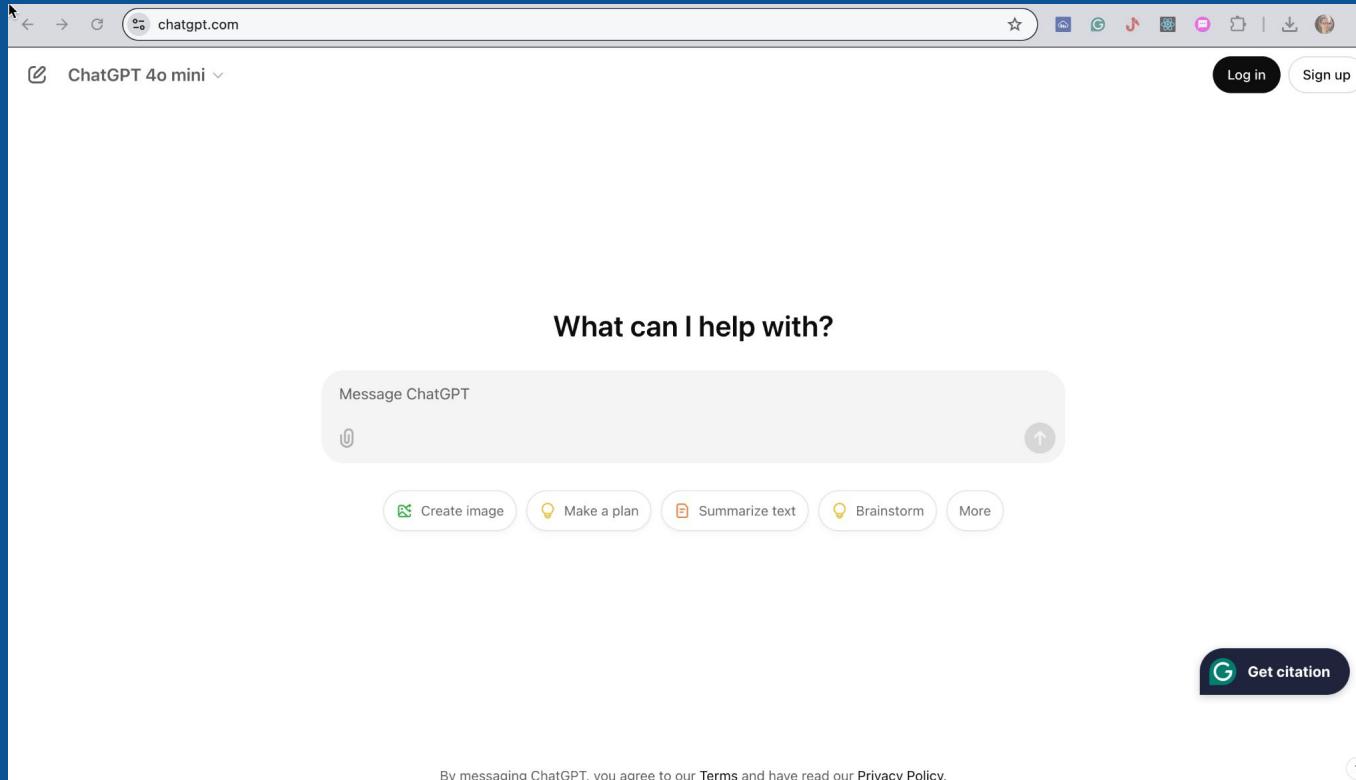
## Share some information about yourself:

- Name
- Work/Interests/Hobbies
- What you want to get from the workshop
- Pair up and work as a team (optional)

# Tools for Interacting with AI Models

Owner	Model
Open AI*	<u><a href="#">ChatGPT</a></u>
Google	<u><a href="#">Gemini</a></u>
Anthropic	<u><a href="#">Claude.ai</a></u>

# ChatGPT User Interface



The screenshot shows the homepage of ChatGPT 4o mini. At the top, there is a navigation bar with icons for back, forward, search, and other browser functions. The URL 'chatgpt.com' is visible. On the right side of the header, there are 'Log in' and 'Sign up' buttons. Below the header, the text 'ChatGPT 4o mini' is displayed next to a profile icon. A large, light-blue speech bubble-shaped button in the center of the page contains the text 'Log in or Sign up'. Below this button, the question 'What can I help with?' is centered. A message input field labeled 'Message ChatGPT' is present, along with a file upload icon and an upward arrow icon. Below the input field are five circular buttons: 'Create image', 'Make a plan', 'Summarize text', 'Brainstorm', and 'More'. In the bottom right corner, there is a dark button with a white 'G' icon and the text 'Get citation'. At the very bottom of the page, a footer note states: 'By messaging ChatGPT, you agree to our [Terms](#) and have read our [Privacy Policy](#)'.



**Sign up**

## Create an account

Email address\*

Continue

Already have an account? [Login](#)

OR



Continue with Google

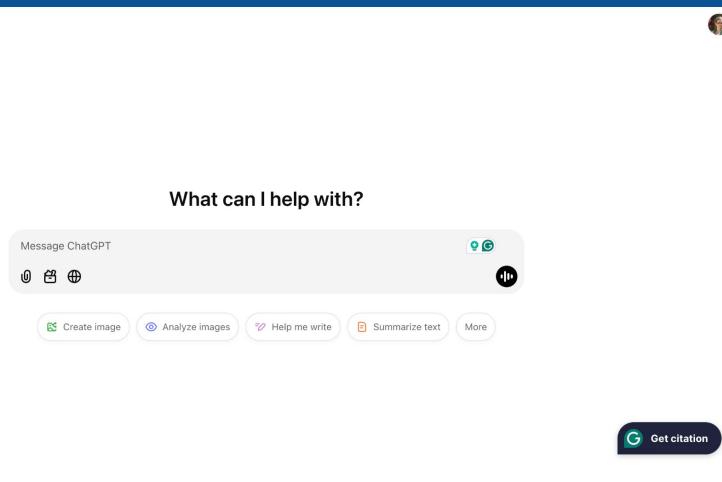


Continue with Microsoft Account

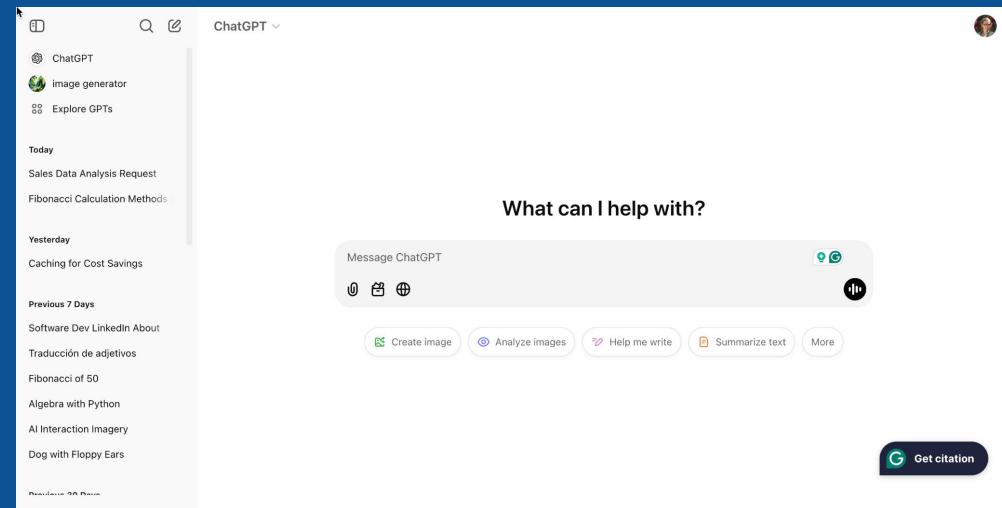


Continue with Apple

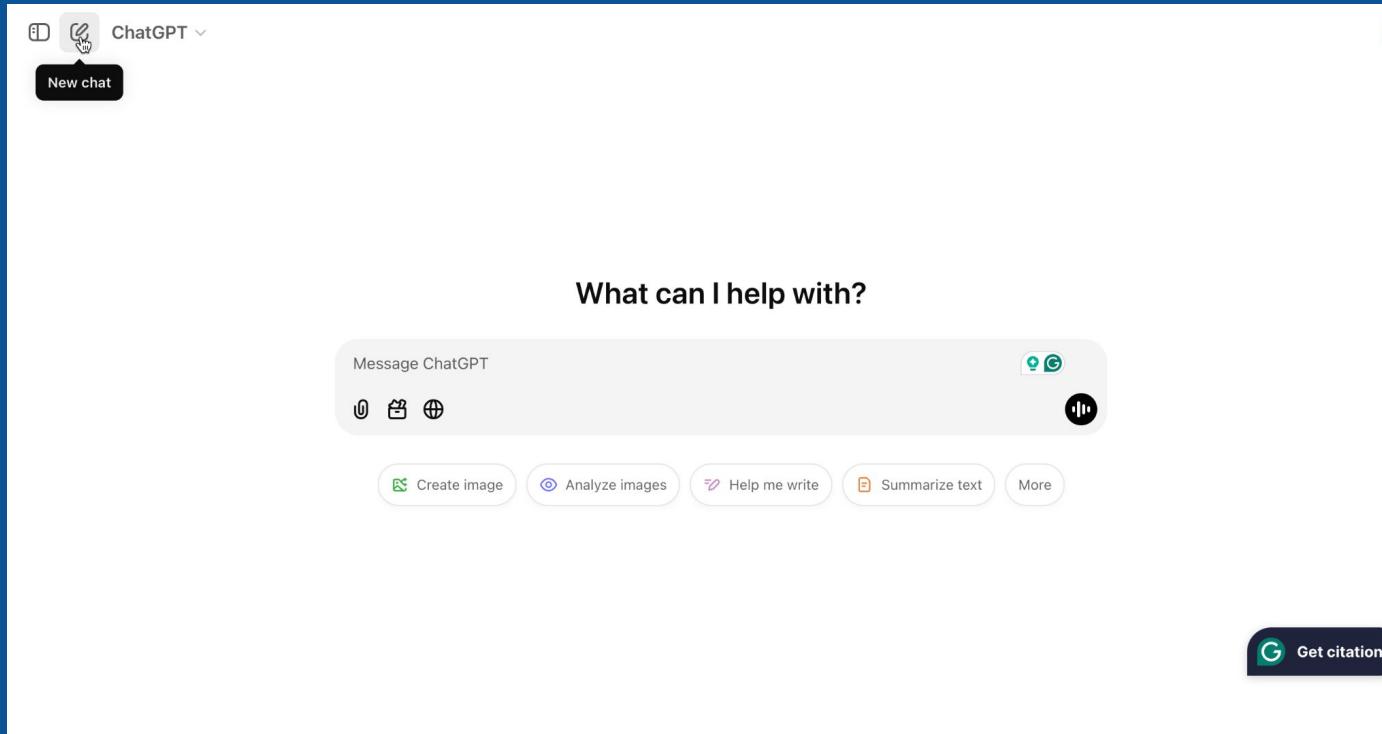
Open sidebar



Sidebar lists all  
your  
conversation  
topics with  
ChatGPT



## New Chat Button



## ChatGPT Options

The screenshot shows the ChatGPT interface with a light blue header bar containing the title "ChatGPT Options". Below the header is a navigation bar with icons for back, forward, and refresh, followed by the text "ChatGPT" and a dropdown arrow. To the right of the dropdown is a small user profile picture.

Under the navigation bar, there are two main upgrade options:

- ChatGPT Plus**: Described as "Our smartest model & more". It includes an "Upgrade" button.
- ChatGPT**: Described as "Great for everyday tasks". This option has a checked checkbox next to it.

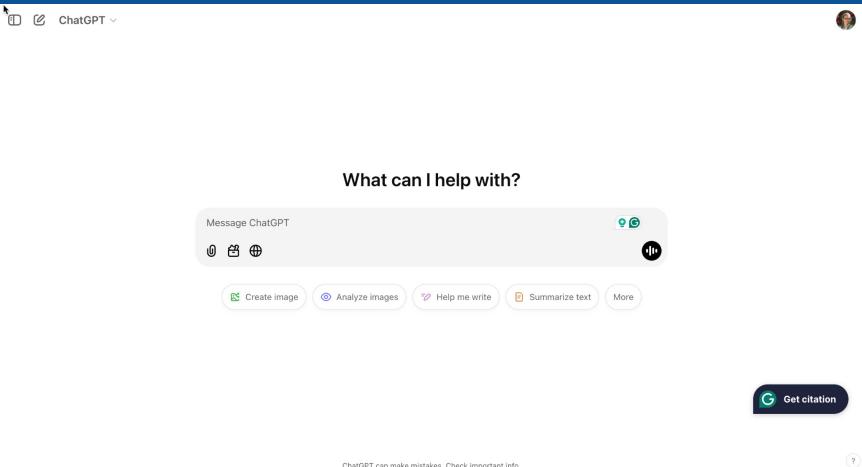
Below these options is a toggle switch labeled "Temporary chat".

The main content area features the heading "What can I help with?" in bold black text. Below this is a message input field with the placeholder "Message ChatGPT". The input field includes a microphone icon for voice input and a green "Send" button with a white "G" icon.

Below the message input field are several circular buttons with icons and text:

- Create image
- Analyze images
- Help me write
- Summarize text
- More

In the bottom right corner of the main content area is a dark button with a white "G" icon and the text "Get citation".



**Clicking on Get Citation gives you a citation you can reference**

A screenshot of the ChatGPT interface. At the top, it says "What can I help with?". Below that is a message input field labeled "Message ChatGPT" with icons for audio, image, and file attachments. Underneath are several buttons: "Create image", "Analyze images", "Help me write", "Summarize text", and "More". A blue box displays the generated citation: "OpenAI. (2025). ChatGPT [Large language model]. https://chatgpt.com". There is a "Copy" button next to the citation.

**Copy into buffer and paste into a document**

Type or paste your prompt in this box

Message ChatGPT

What can I help with?

Message ChatGPT



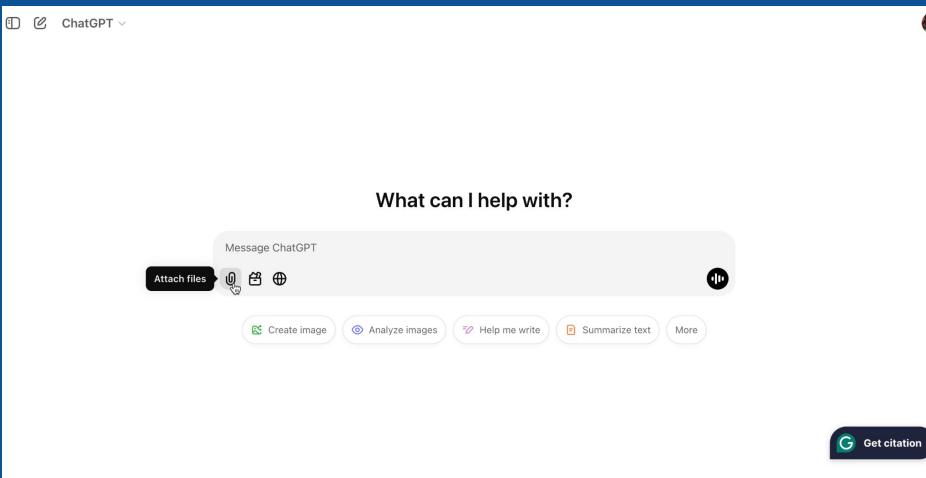
Create image

Analyze images

Help me write

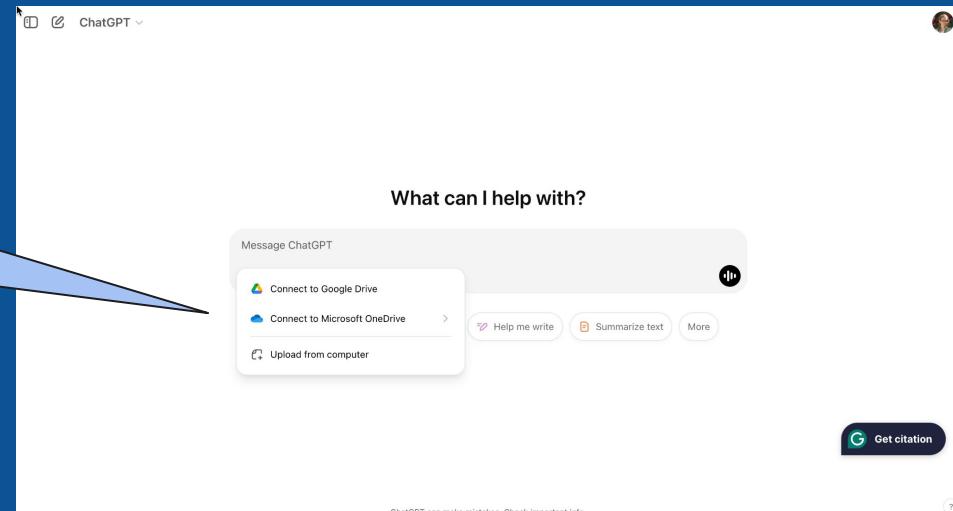
Summarize text

More



**Option: Attach files  
toggle**

You can upload files from  
your hard drive, Microsoft  
Online or Google Drive



## Option: View Tools toggle

What can I help with?

Message ChatGPT



Create image

Analyze images

Help me write

Summarize text

More

What can I help with?

Message ChatGPT

View tools

Picture  
Use DALL-E

Search  
Find on the web

Canvas  
Collaborate on writing and code

Help me write

Summarize text

More

**Option: Search the Web  
Toggle**

What can I help with?

|Message ChatGPT

📎 📅 ⚡  ⚡

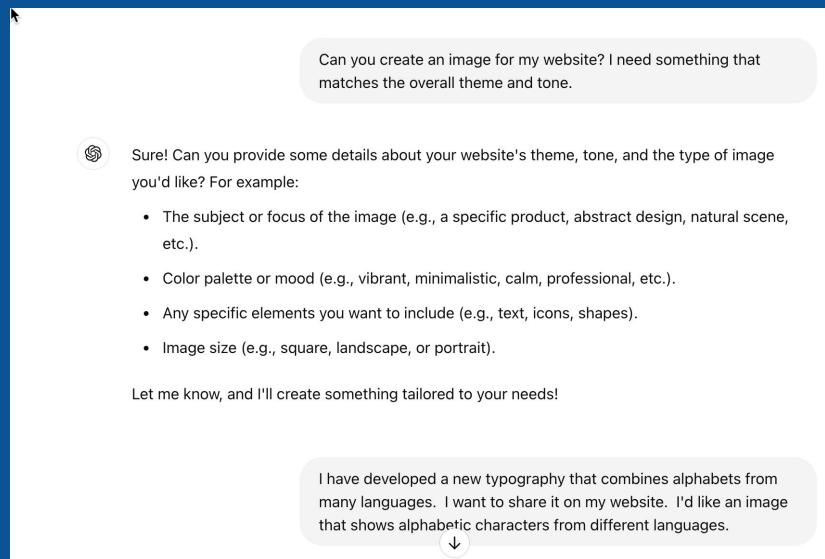
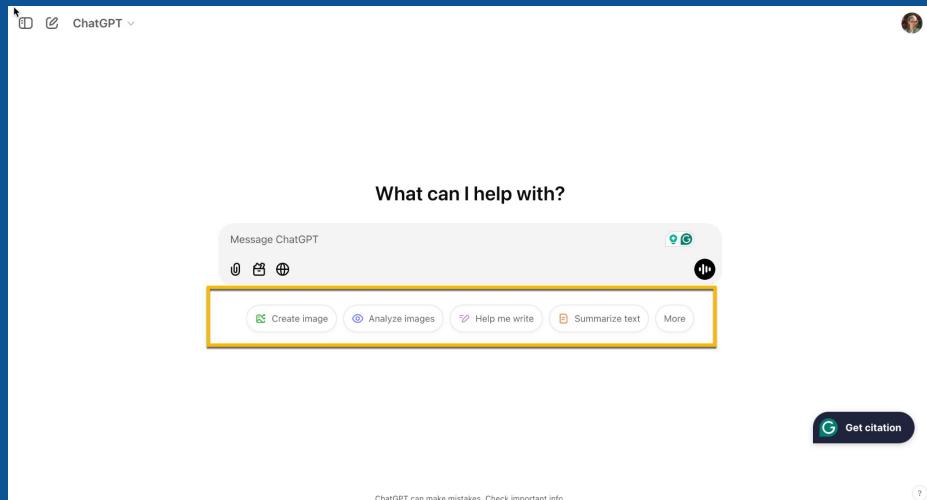
⚡ Nfl Playoffs

⚡ Tammy Bruce

⚡ Demi Moore

⚡ Connections Hints Today

**Click on buttons to start a prompt**



ChatGPT creates an image for me and I give it a thumbs up



Here's an image that showcases alphabetic characters from multiple languages in a unified and artistic style. Let me know if you'd like any adjustments or if you'd like help incorporating it into your website!



# Sharing a session

The screenshot shows the ChatGPT web interface. On the left, a sidebar lists recent sessions: "Website Image Request" (selected), "Sales Data Analysis Request", "Fibonacci Calculation Method", "Caching for Cost Savings", and "Previous 7 Days". Each session has a "Share" button. A large blue callout bubble points to the "Share" button of the selected session, containing the text: "I want to share my session so I open the sidebar and select share".

At the top center, the ChatGPT logo is visible. In the top right corner, there is a "Share" button with a person icon and a user profile picture.

The main conversation area shows two messages:

- A user message: "Can you create an image for my website? I need something that matches the overall theme and tone."
- ChatGPT's response: "The details about your website's theme, tone, and the type of image you're looking for will help me create something that fits. Please provide more details about the image (e.g., a specific product, abstract design, natural scene, etc.)."

Below the messages, a list of options for the selected session is shown:

- Share
- Rename
- Archive
- Delete

At the bottom, a message input field says "Message ChatGPT" and includes icons for a microphone, a file, and a plus sign. To the right, a "Get citation" button with a green "G" icon is visible.

At the very bottom left, there is a small "Upgrade plan" link.

# Sharing a session



Sure! Can you provide some details about your website's theme, tone, and the type of image you'd like? For example:

## Share public link to chat



Your name, custom instructions, and any messages you add after sharing stay private. [Learn more](#)

[https://chatgpt.com/share/...](https://chatgpt.com/share/)

[Create link](#)

I have developed a new typography that combines alphabets from many languages. I want to share it on my website. I'd like an image that shows alphabetic characters from different languages.  
↓

## Create a link

## Copy link into buffer

## Public link created

A public link to your chat has been created. Manage previously shared chats at any time via [Settings](#).

**Make this chat discoverable**

Allows it to be shown in web searches

<https://chatgpt.com/share/677da95d-ac>

[Copy link](#)



LinkedIn



Facebook



Reddit



X

# Sharing (Optional)

# Sharing in a Google Doc: Use the Link or QR Code (**3ZWv3kj**)

**<https://bit.ly/3ZWv3kj>**

Wenatchee Value College  
Using AI  
Share Prompts and Results

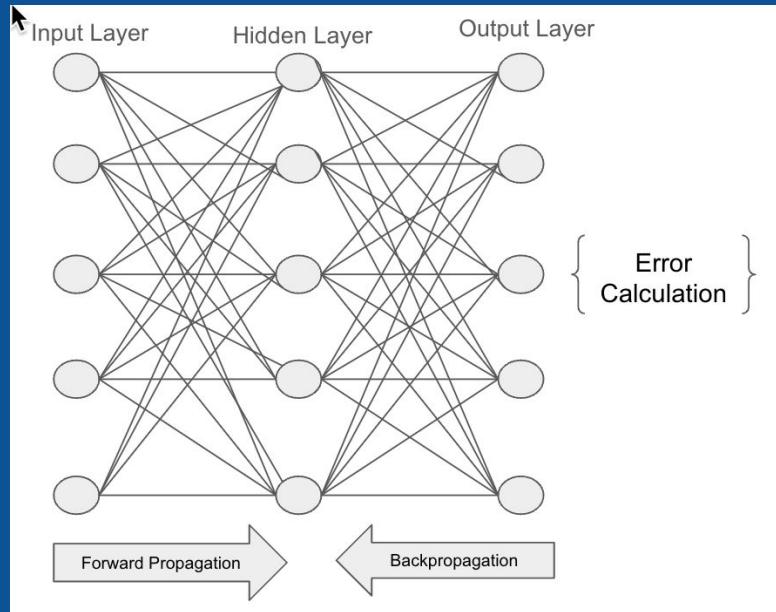
Create an image of a couple of people interacting with AI. (Becky)



## Exercise: Question and Answer with ChatGPT

- Go to ChatGPT: <https://chatgpt.com/>
- Register for an account
- Ask it to give you instructions like “Give me instructions for drawing a calico cat”
- Go to the sharing document and share your prompt and a few lines of the results

# The Technology



**Machine Learning  
Neural Networks  
Large Language Models**

# Technology Timeline

**1878**

**Telephone**  
service city wide  
in Deadwood,  
South Dakota

**1880**

**Electricity**  
Established in  
Wabash, Indiana

**1885**

**Plumbing**  
Established in  
Chicago, Illinois

**1937**

75% of US  
Households have  
a **Radio**

**1964**

IBM System/360  
provides time  
sharing on  
mainframe  
**computer**

**1985**

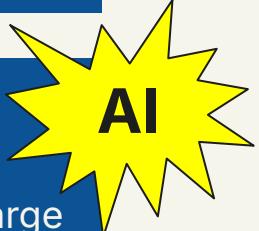
Microsoft  
launches first  
personal  
**computer**

**2000**

53% of  
Americans using  
the **Internet**

**2018**

First **LLM** (Large  
Language Model)  
created: **GPT-1**



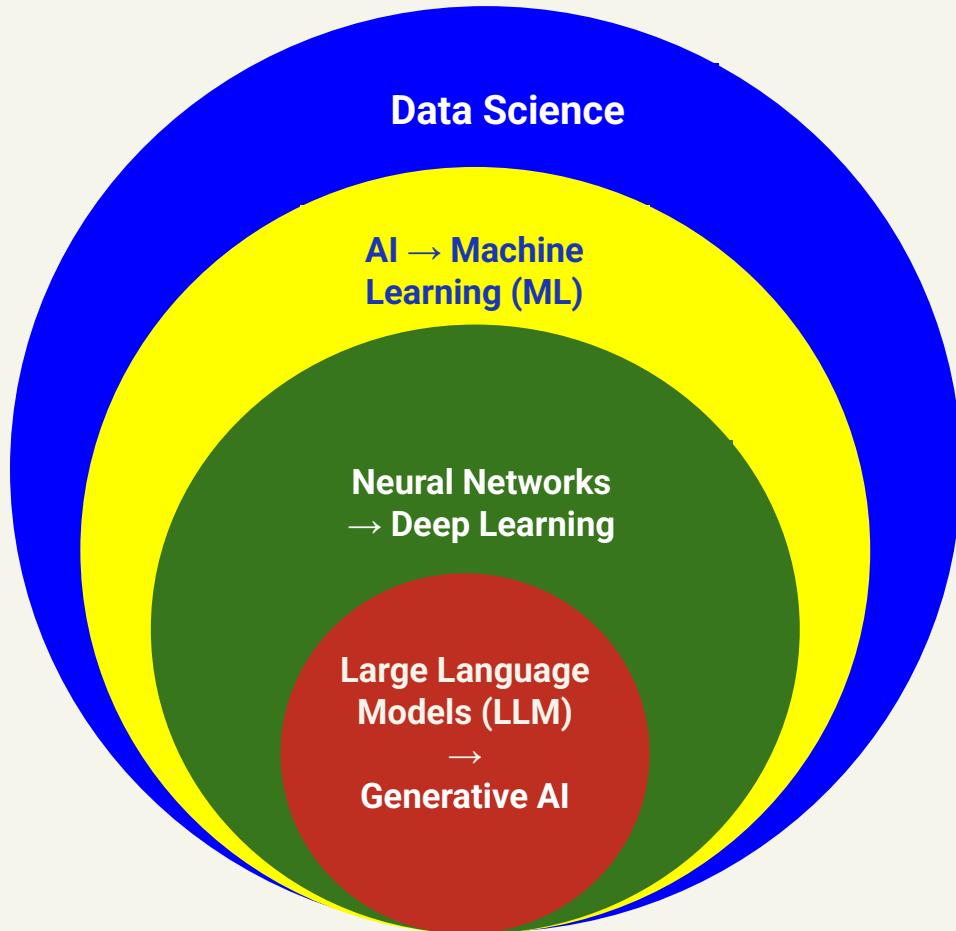
# Our Goal: Interact with Generative AI



**Generative AI**

# From Data Science to Generative AI

The relationship between Data Science, Machine Learning, Large Language Models and Gen AI



# Data Science Disciplines

## Artificial Intelligence

Machines can think, learn and communicate like humans.

## Deep Learning: Neural Networks

Algorithms inspired by structure and function of the human brain using pattern recognition. Used for object detection.

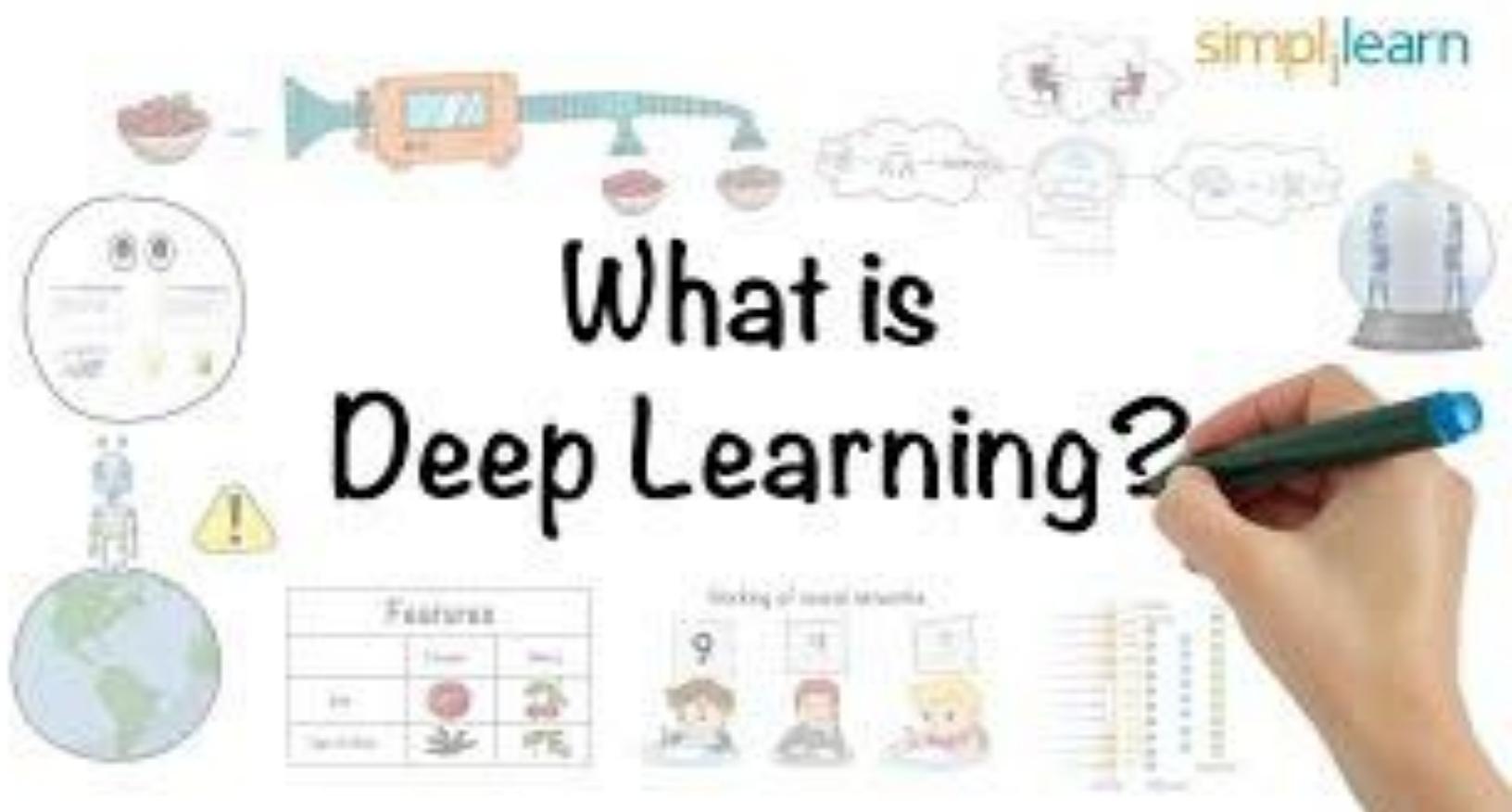
## Machine Learning

Algorithms and statistical models that allow computers to learn from and make decisions based on data.

## Generative AI

A type of AI that creates content in the form of conversational text, code, images, audio and video. It can be prompted to engage with different sentiments, personality and knowledge.

# What is Deep Learning?



# What is a Large Language Model?



Network of Connections

[Photo by U.Lucas Dubé-Cantin](#)

The model is not a physical item, but statistical associations between words.



Fueled by Data

[Photo by panumas nikhomkhai](#)

Large amounts of data from many sources are used to train the model.

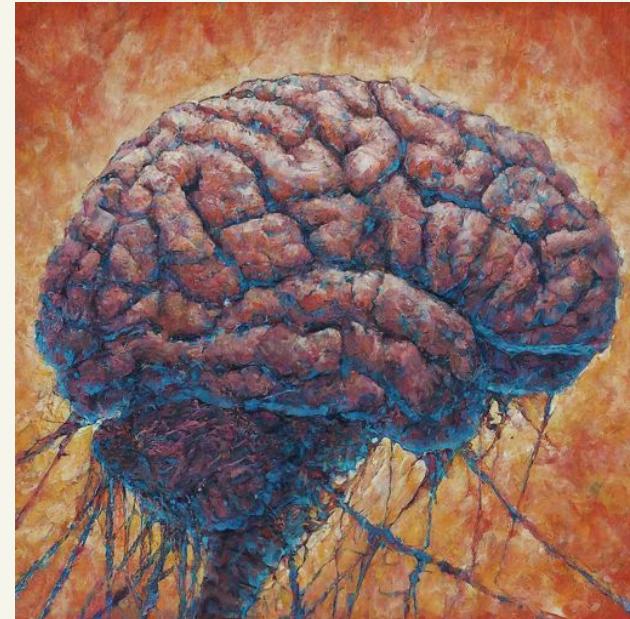
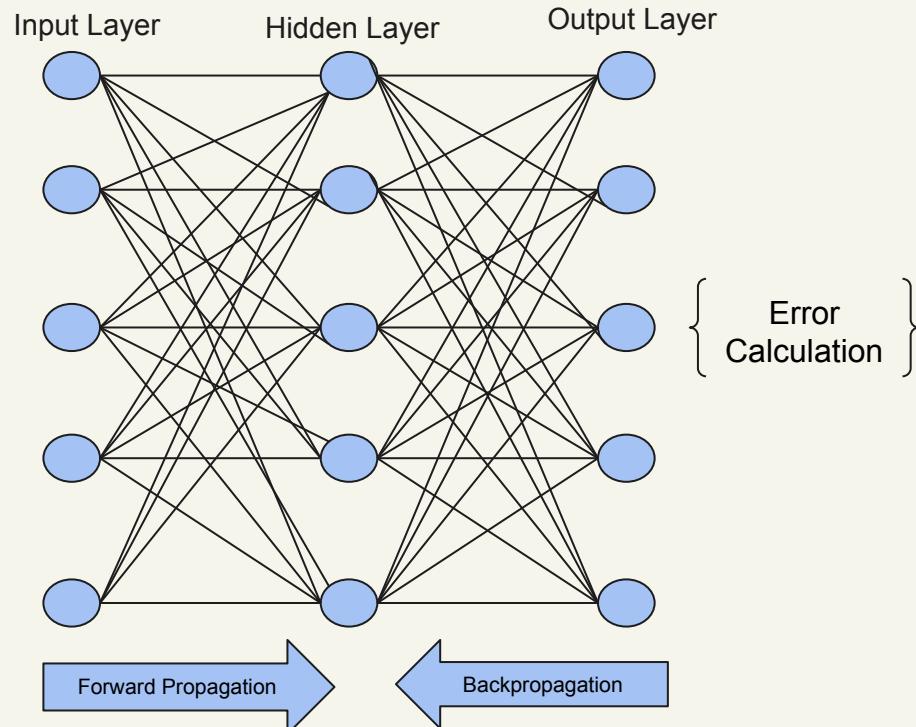


Housed in Large Computers

[Derrick Coetzee from Berkeley, CA, USA, CC0, via Wikimedia Commons](#)

Clusters of machines working together.

# Supervised Training with Neural Networks



# Model Terminology

## Token

Input text broken down in to words, sub words or letters creates tokens.

cat: [0.4, 1.2, 0.7]

## Parameters

A vector is a list of tokens converted into numerical values. Numbers that are close in value indicate that they are semantically related. Like cat and dog:

cat: [0.4, 1.2, 0.7]  
dog: [0.5, 1.1, 0.8]

## Embedding

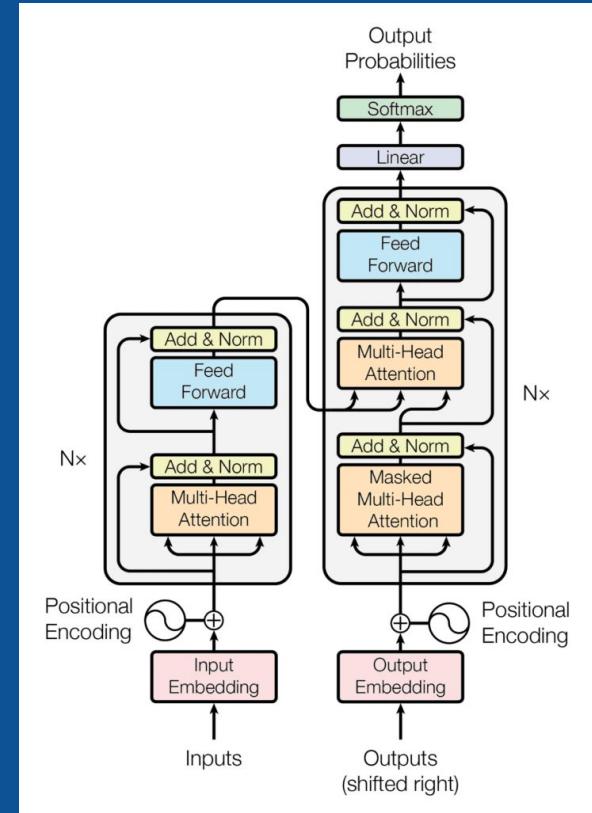
Embedding are learned during training. Cat and Dog would be in an embedding. Notice that cat and dog are close in 3D space, but car is not.

cat [0.8, 0.3, 0.5]

dog [0.9, 0.4, 0.6]

car [0.1, 0.8, 0.9]

# Attention and the Transformer Architecture



**"Attention is all you need"**  
2017 paper

# AI Pitfalls

- Hallucinations
- Bias
- Copyright Infringement
- Sustainability

# Hallucinations

AI creates generates  
incorrect information  
or nonsensical  
images

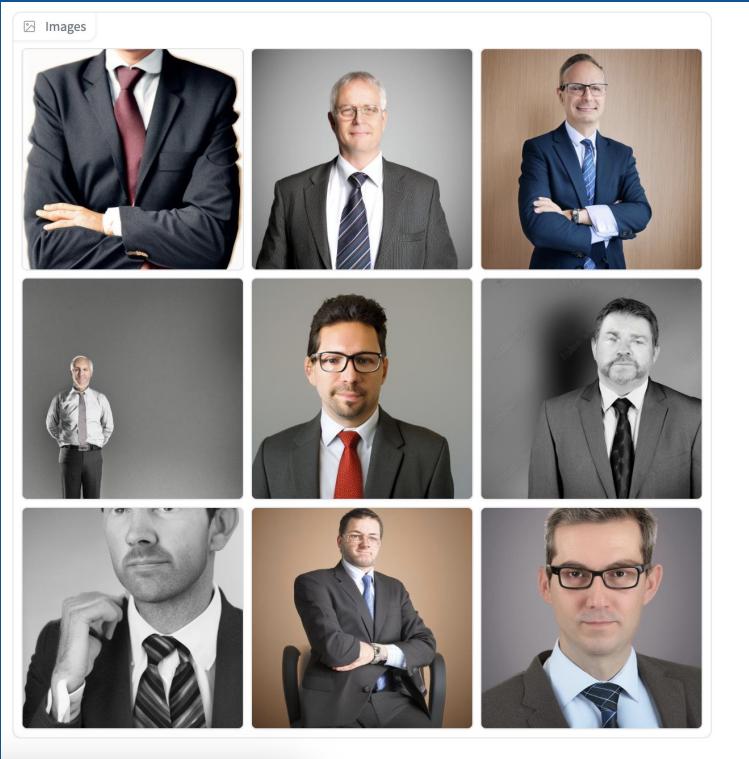
[Google](#)



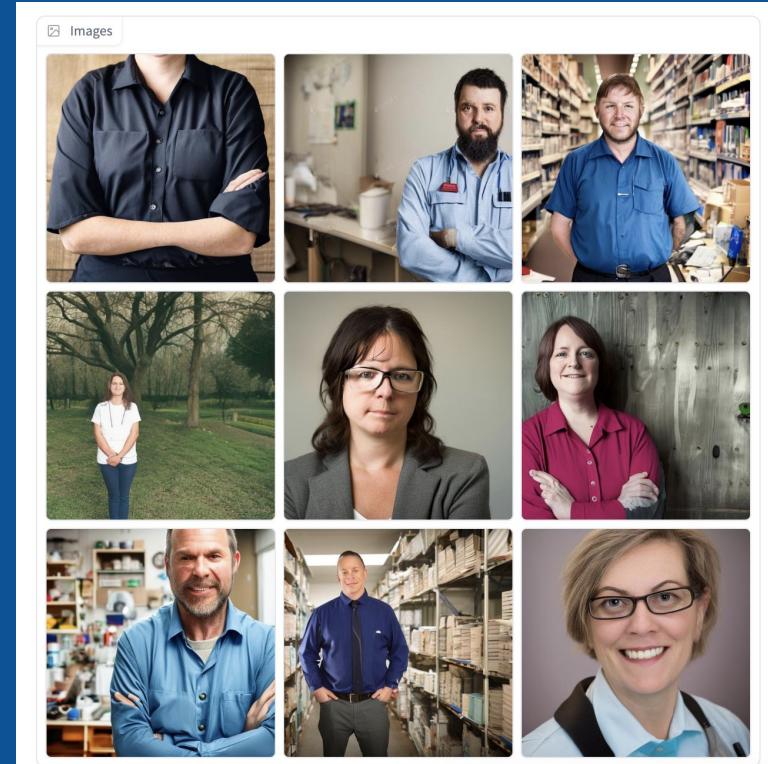
# Bias

AI generates content that reflects human biases.

MIT Technology Review 2023



Manager



Compassionate Manager<sup>39</sup>

# Copyright Infringement

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NATIONAL ACADEMY OF SCIENCES  
ARIZONA STATE UNIVERSITY

JANUARY 16, 2024

## Generative AI Is a Crisis for Copyright Law

BY KATE CRAWFORD, JASON SCHULTZ

# Sustainability

- Energy Consumption
- Water Waste for Cooling Data Centers
- Hardware required rare Earth materials that  
are hard to mine

# Dealing with AI Induced Problems

## Solutions and Mitigation Strategies

- **Energy Efficiency:** Optimize algorithms and hardware to reduce energy use.
- **Renewable Energy:** Power data centers with renewable energy sources.
- **E-Waste Management:** Develop better recycling technologies for AI-related hardware.
- **Equitable AI Policies:** Ensure fair access and regulate monopolistic tendencies.
- **Responsible AI Design:** Focus on ethical AI frameworks to prevent biases and misuse.

# Prompt Engineering

## Learn the Importance of a Good Prompt



# What makes a good prompt?



# Use These Steps When Creating an AI Prompt

Use specific and explicit input

Indicate level of expertise

Describe context

Outline intent

Break down large requests

Provide output format instructions

Ask follow up questions

Run a fact check with another source

Avoid spelling and grammar errors

# Use specific and explicit Input

Do

"Explain the difference between German Shepherds and Poodles in terms of temperament, compatibility with children, and care requirements."

Don't

"Write about dogs"

# Indicate level of expertise

**Do**

Your audience is a group of adults who are learning about AI. Describe how AI Agents are used from a technical standpoint but aimed at an nontechnical audience.

**Don't**

Write about AI Agents.

# Describe context

**Do**

I'm teaching an 8th grade class how to factor quadratic equations. Provide an explanation with examples on how to do this that is appropriate for this grade level.

**Don't**

Factor an algebraic equation.

# Outline intent

OpenAI. (2025). *ChatGPT*

**Do**

Explain climate change in simple terms for a 12-year-old audience. Keep it concise (around 100 words) and use examples like melting ice caps or extreme weather to illustrate the concept.

**Don't**

Explain climate change.

# Breakdown Large Requests

**Do**

First explain the principles behind writing a Haiku poem. Next write two different Haiku poems. Finally explain how the two poems are alike.

**Don't**

Write a couple of Haiku poems and describe the principles behind Haiku poetry and how the two poems are alike.

# Provide Output Format Directions

## Do

Create a table with 3 columns and 3 rows. In the first column list the English words kind, grateful, and brave. In the 2nd column translate those words into Spanish. In the third column translate those words into Ukrainian.

## Don't

Translate the words kind, grateful and brave into Spanish and Ukrainian.

# Formatting: Text

OpenAI. (2025). ChatGPT

## Text

Plain Text

**Bold**

*Italic*

## Bullet List

- Fact 1
- Fact 2
- Fact 3

## Numbered List

1. Item A
2. Item B
3. Item C

## Table

Fruit	Color
Apple	Red
Pear	Green
Banana	Yellow

# Formatting: Visual Enhancements

OpenAI. (2025). ChatGPT

## Headings

**Heading 1**

**Heading 2**

**Heading 3**

## Separators

section 1

---

section 2

## Color Coding

Error

Success

## Emojis



# Indicate level of expertise

**Do**

Your audience is a group of adults who are learning about AI. Describe how AI Agents are used from a technical standpoint but aimed at an nontechnical audience.

**Don't**

Write about AI Agents.

# Ask follow up questions

After learning that the Earth's temperature has increased by .74 degrees Fahrenheit since 2000.

## Do

When did we start recording the temperature of the earth.

Create a table showing year and temperature for the 20th Century.

How much has the temperature of the oceans increased since the 20th century?

What is causing the temperature to increase?

## Don't

Walk away and miss a good conversation and more details.

# Ask follow up questions

After learning that the Earth's temperature has increased by .74 degrees Fahrenheit since 2000.

## Do

When did we start recording the temperature of the earth.

Create a table showing year and temperature for the 20th Century.

How much has the temperature of the oceans increased since the 20th century?

What is causing the temperature to increase?

## Don't

Walk away and miss a good conversation and more details.

# Follow up with a fact check

**Do**

Use a search engine to verify that there were 6 band members and 4 vocalists in Taylor Swift's 2023 Eras tour.

**Don't**

Use the information from a prompt about the members of the Taylor Swift's Eras tour without verifying it from another source.

# Avoid Spelling and Grammar Errors

## Tools

- Grammarly is available as a free browser extension ([Chrome](#), [Edge](#)), desktop or [web app](#)
- Microsoft Word and Google Docs offer spell check
- [Hemingway](#) will make your text more succinct
- [LanguageTool](#)

# Exercise

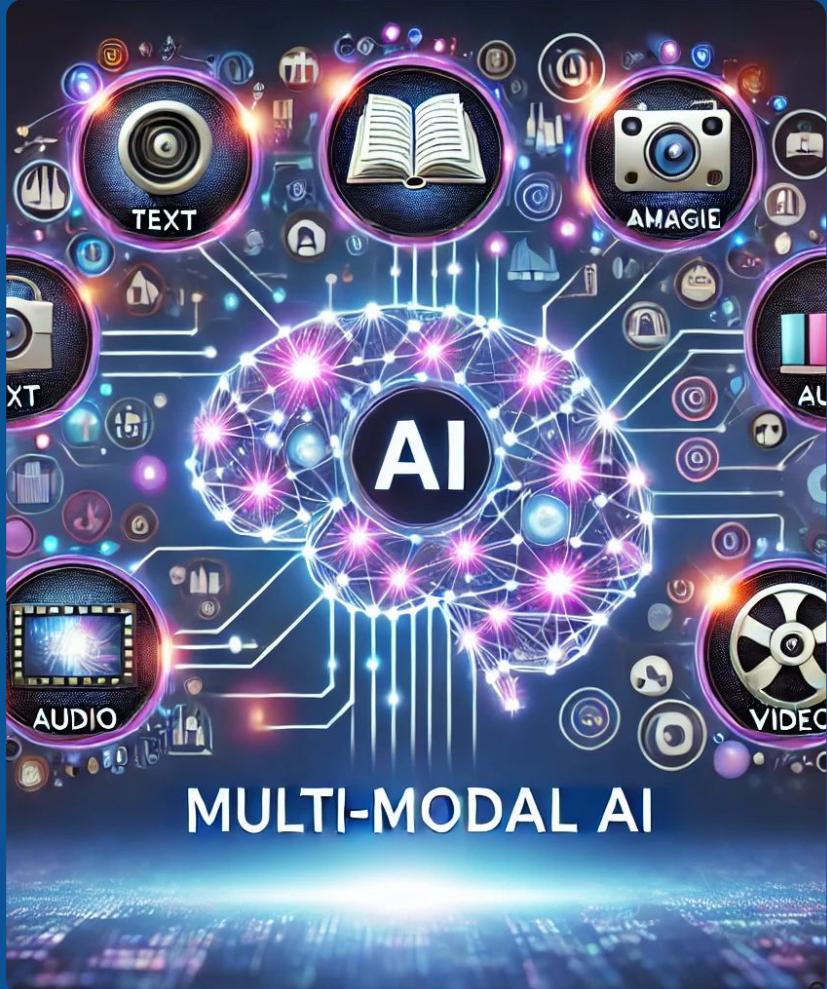
1. Create prompt that will **explain the future of AI to the target audience.**
2. Ask AI to evaluate the prompt before asking it to answer the question.
3. Run the question twice to see the difference in the answer.

Create your own input to build the prompt:

- age and level of expertise of the audience
- role and expertise of AI in creating the response
- context of the problem (when, where, why)
- intent of the question (provide information what will help the audience to form opinions and conclusions about the subject)

# Multi Modal AI

Text, Image, Video, and Audio





This image conveys the concept of **multi-modal AI**, emphasizing the integration of various data modalities—such as text, images, audio, and video—into a unified AI system. The central AI brain with glowing neural connections symbolizes the processing power of artificial intelligence, while the surrounding icons (book, camera, speaker, and film reel) illustrate the different input types AI can handle. The vibrant and futuristic design highlights the advanced and interconnected nature of these technologies, suggesting their versatility and capability in processing complex, multi-dimensional information.

# Websites for Multi Modal Creation

Audio

Video

Images

[elevanlabs.io](https://elevanlabs.io)

[murf.ai](https://murf.ai)

[mureka.ai](https://mureka.ai)

[udio.com](https://udio.com)

[Invideo](https://invideo.com)

[Amazon Nova](https://amazon-nova.com)

[Canva Video Generator](https://www.canva.com/video-generator/)

[Synesthesia.io](https://synesthesia.io)

[ragon.ai](https://ragon.ai)

[openart.ai](https://openart.ai)

[aitubo.ai](https://aitubo.ai)

[nightcafe.studio](https://nightcafe.studio)

AND MANY MORE...

# Proofreaders: Correcting Grammar and Spelling

Gammarly

Quillbot

ChatGPT

# Use Cases

Hands On Exercises



# Prepare to Write Prompts

- Identify Problems at Home and Work
- Classify Home Problems as "Issues"
- Classify Work Problems by "Role"
- Exercise: Create Prompts

# Issues at Home

- Meal Planning
  - Budgeting
  - Chore Scheduling
  - Learning a Craft or New Skill
  - Fixing a Problem Around the House
  - Planning a Vacation
- 
- Finding a Gift
  - Diet and Fitness
  - Dealing with Stress
  - Homework Assistance
  - Creating Stories and Games for Children
  - Caring for pets

# Exercises for Problems at Home



# Roles at Work

Issue	Question
Meal Planning	<b>What is a good set of nutritious meals for the week?</b>
Budgeting	<b>Sharing my income and expenses, what can I do to save \$x by the end of the year?</b>
Chore Scheduling	<b>How do I make a schedule for cleaning house?</b>
Learning a Craft or New Skill	<b>How do I make a flag?</b>
Fixing a problem around the house	<b>Why isn't my dishwashing cleaning properly?</b>
Planning a vacation?	<b>How should I travel and where should I stay?</b>

# Issues at Home

Issue	Question
Finding a gift	<b>What is a good gift to take to a wedding between older adults?</b>
Diet and Fitness	<b>What are some exercise to relieve neck pain?</b>
Dealing with Stress	<b>What can I do to relieve stress and sleep more?</b>
Homework assistance	<b>How to I help my 8th grade child with Algebra?</b>
Creating stories and Games for children	<b>Can you help me a story about X that uses my children's names?</b>
Caring for Pets	<b>What is the best way to clip your dog's nails?</b>

# Exercises for Problems at Work



# Roles at Work

- Writers
- Educators
- Lawyers and Policy Makers
- Software and Web Developers
- Language Translation
- Food and Hospitality Service

- Marketers
- Project Managers
- Fitness Instructor
- Athletic Coach
- Health Care Professionals
- Elder Care Professionals

# Issues at Home

Issue	Goal
Writers	<b>Create an outline for detective novel</b>
Writers II	<b>Correct my spelling and Grammar</b>
Educators	<b>Create a syllabus for a course about Artificial Intelligence</b>
Lawyers and Policy Makers	<b>Provide background on Law X</b>
Software and Web Developers	<b>Write code that analyzes data in my file</b>
Language Translation	<b>Translate the file I have uploaded to Spanish</b>
Food and Hospitality Service	<b>Share some popular trends in food and hospitality</b>

# Issues at Home

Issue	Question
Marketers	<b>Create a brand and logo for a business that does X</b>
Project Managers	<b>Read the problem I am trying to solve in an uploaded file and help me to create tasks</b>
Fitness Instructors	<b>What are the recommended exercises for client problem X</b>
Athletic Coach	<b>Tips for inspiring my team to win</b>
Health Care Professionals	<b>What to look for in problems from post Covid patients?</b>
Elder Care Professionals	<b>Provide a list of activities that would be interesting to a population over 80 years old</b>

# Exercise: Problems from Home and Work

- Recall features of a Good Prompt ([Slide 46](#))
- Choose 2 problems: One from Home and one from Work or Use a Problem You've Encountered
- Start with a Good Text Prompt
- Go beyond just a text question
- Create more prompts if there is time
- Share prompts or links to ChatGPT

# More Tools and Inputs

NotebookLM and Transfer  
Learning



# Research Tool: Google NotebookLM

- Summarize Documents
- Answer Questions
- Generate Ideas
- NotebookLM

The screenshot shows the Google NotebookLM interface for the myth of Prometheus. The main area displays a summary of the myth, mentioning Prometheus stealing fire from the gods, being punished by Zeus, and eventually being freed by Hercules. Below the summary is a text input field with placeholder "Start typing..." and two suggestions: "How does Prometheus's defiance shape humanity's fate?" and "What role does fire play in the myth?". To the right, there are sections for "Sources" (listing "The Story of Prometheus.pdf"), "Chat" (with a fire emoji), "Studio" (with "Deep Dive conversation" and "Generate" buttons), "Audio Overview", "Notes" (with "Add note", "Study guide", "Briefing doc", "FAQ", and "Timeline" buttons), and a note about saved notes appearing here.

# Transfer Learning: Zero Shot and Few Shot

- **Zero Shot:**  
no new information
- **Few Shot:**  
provide specific information

The screenshot shows the NotebookLM application interface. On the left, there's a sidebar titled "Sources" with a "Prometheus: Fire, Pandora, and Freedom" icon. Below it are buttons for "+ Add source" and "Select all sources". A file named "The Story of Prometheus.pdf" is listed with a checked checkbox. The main area is titled "Chat" and contains a small orange flame icon. The text "Prometheus: Fire, Pandora, and Freedom" is displayed, followed by "1 source". Below the text is a summary: "This text recounts the Greek myth of Prometheus, a Titan who stole fire from the gods to give to humanity, improving their lives. Zeus, angered by this act, punishes Prometheus by chaining him to a mountain. The myth also introduces Pandora, whose curiosity unleashes diseases and woes upon the world. Finally, Hercules eventually frees Prometheus, fulfilling a prophecy." At the bottom of the main area, there's a text input field "Start typing..." with a blue send button, and two suggestions: "How does Prometheus's defiance shape humanity's fate?" and "What role does fire...". The right side of the interface includes sections for "Studio", "Audio Overview" (with a "Deep Dive conversation" card), "Notes" (with buttons for "+ Add note", "Study guide", "Briefing doc", "FAQ", and "Timeline"), and a note-taking section with a "Saved notes will appear here" message.

# Zero Shot Sentiment Analysis

- Positive
- Neutral
- Negative

Relying on how the  
model was trained

Text: I'm excited about going to the movie. Sentiment:

The sentiment of the text is **positive**. It conveys excitement and anticipation.

I think my new skis are OK. Sentiment:

The sentiment of the text is **neutral**, as it expresses a moderate or unenthusiastic opinion about the new skis.

I'm not looking forward to taking the test tomorrow. Sentiment:

The sentiment of the text is **negative**, as it expresses reluctance or unease about the upcoming test.

# Few Shot Analysis

Allows you to add new knowledge to the Model.

The screenshot shows a conversation in a light gray box. The user asks for a sentence using the word 'blipityblip'. ChatGPT responds with a sentence and provides a definition of the word.

The word blipityblip means that you are ready to prompt AI. An example of the use of the word blipityblip is "My boss is blipityblip and wants me to manage the new AI department".

Use blipityblip in a sentence.

 Sure! Here's a sentence using **blipityblip**:  
"After attending the workshop on prompt engineering, I finally feel blipityblip and ready to tackle my AI-powered projects."

Try defining your own new word. Use it in a sentence and then ask ChatGTP to use it.

# Recap

## Prompt:

"create an image that has the word "recap" in it and and an image of someone putting their hat on"

## Prompt Engineering



# What we've learned

## Tools

- ChatGPT
- Multi Modal AI Resources
- NoteookLLM.google

## Concepts

- AI Technology
- Machine Learning
- Neural Networks
- Deep Learning
- Prompt Engineering
- Zero Shot and Few Shot Prompting

# Other Models To Try

- [Google Gemini](#)
- [Anthropic Claude.AI](#)
- [GitHub Copilot](#)

# References

<https://www.promptingguide.ai/>

<https://app.datacamp.com/learn/tutorials/few-shot-prompting>