



## *All About AI: June 2024 edition*

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# How I Prepared: a.k.a. Yes, I'm a cheater

- Tools used: **ChatGPT 3.5, Claude 3 Sonnet, Bing Copilot**
- **“You are an expert AI assistant for creating compelling and educational presentations. I am working on a presentation about AI for a crowd that has no experience with it. My presentation should be about 45 minutes long, with 15 minutes at the end for questions and answers. I want to have some live demos interspersed with the slides to demonstrate the capabilities of AI and how it can help people in their every day tasks. I also want to show them how to use AI as entertainment, enriching their lives with generated text, images, sounds, etc.”**
- **“Help me draft an outline for the presentation, then we will dig deeper into the content itself.”**

# AI for Everyone: An Introduction

- **What is Artificial Intelligence?**
- **What AI currently can and cannot do**
- **Data, privacy and model deployment considerations**
- **AI for everyday tasks (demos)**
- **AI for productivity/work (demos)**
- **AI for enrichment/entertainment (demos)**
- **The future of AI and ethical implications**



# What is Artificial Intelligence?



- **Systems designed to perform tasks requiring human-like intelligence**
- **Uses algorithms and large data to recognize patterns and make decisions**
- **Encompasses areas like machine learning, natural language processing, computer vision**
- **Origins dating back to 1950s, with periodic AI winters and renewed progress**

# Why AI is Important Today

- **AI is becoming increasingly capable and prevalent**
- **Can augment human abilities across many domains**
- **Potential to increase efficiency, automation, insights**
- **Driving technological progress and economic opportunities**



# AI Strengths

- **Excels at pattern recognition across large datasets**
- **Can process and analyze data at scale**
- **Natural language processing/understanding capabilities**
- **Computer vision and perception skills**



# AI Limitations



- **Lacks genuine understanding, reasoning, common sense**
- **Blindly follows patterns in training data**
- **Produces untrue outputs, aka "hallucinations"**
- **Currently narrow skills, not general intelligence**

# AI Hallucinations

- **AI making up plausible but incorrect information**
- **Potential for generating misinformation/biases**
- **Examples: incorrect facts, unsuitable content**
- **Verify outputs - especially for important use cases**



# AI Training Data

- **AI models are trained on large datasets**
- **Quality and scope of data impacts model performance**
- **Insufficient/biased data can lead to skewed outputs**
- **Curation of representative, high-quality data is crucial**



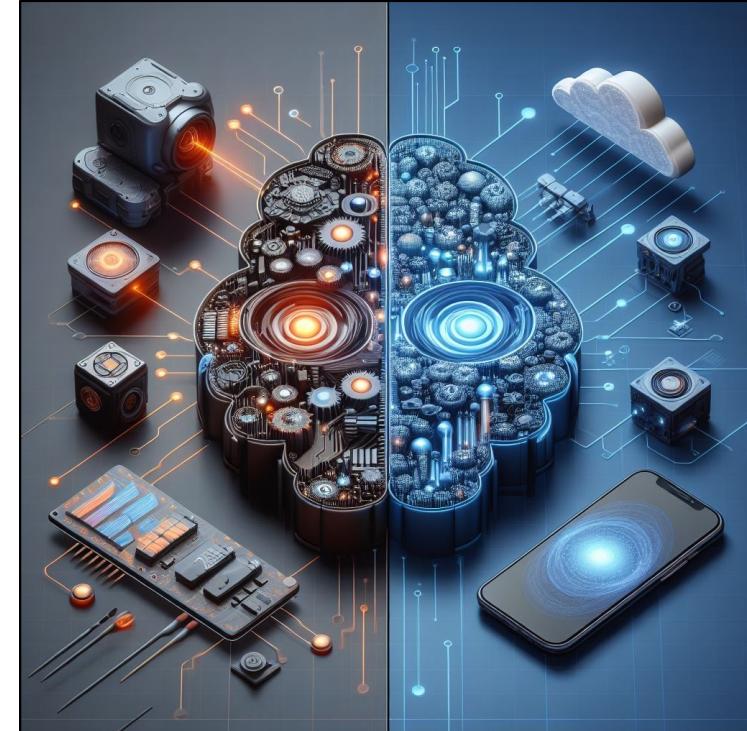
# AI Privacy Risks



- **User data may be used to train AI models**
- **AI outputs could contain private information**
- **Potential for exposure of personal data**
- **Privacy-protecting techniques like differential privacy**

# Local or Cloud?

- **Local AI model deployment is more private**
- **But limited by available computing power/capabilities**
- **Cloud-based models leverage greater resources**
- **But cloud involves trusting external provider**



# AI Ethics



- **AI development and use raises ethical questions**
- **Responsibility, accountability, and governance**
- **Addressing issues like bias, privacy, and social impact**
- **Developing AI responsibly for societal benefit**

# AI for Everyday Tasks

- Demo time!



# Demo – AI Assistant

- **Claude 3 Sonnet is available at no cost**
  - Email required to sign up
  - Limited number of interactions per day
  - <https://claude.ai>
- **ChatGPT has a free demo**
  - Limited functionality without signing up
  - <https://chatgpt.com>
- **Microsoft Copilot for text & art**
  - Requires a Microsoft account
  - <https://copilot.microsoft.com>



# Demo – Text Generation

- Write a description of this product for an online ad.
- “Farm Fresh Eggs - Straight from the Coop

**Get the freshest, most flavorful eggs around with our newly laid eggs from local, free-range hens. Each carton contains one dozen large, brown eggs with sturdy shells and bright orange yolks. These eggs are packed with flavor and nutrients from the wholesome, vegetable-based diet of our healthy, humanely-raised hens. Perfect for baking, scrambling, or any of your favorite egg dishes. Enjoy the taste of just-gathered eggs from a small, sustainable farm. Order your carton of fresh eggs today!”**
- n.b. Remember to double-check the output, as it may have hallucinated some facts (such as our free-range hens having a vegetable-based diet)



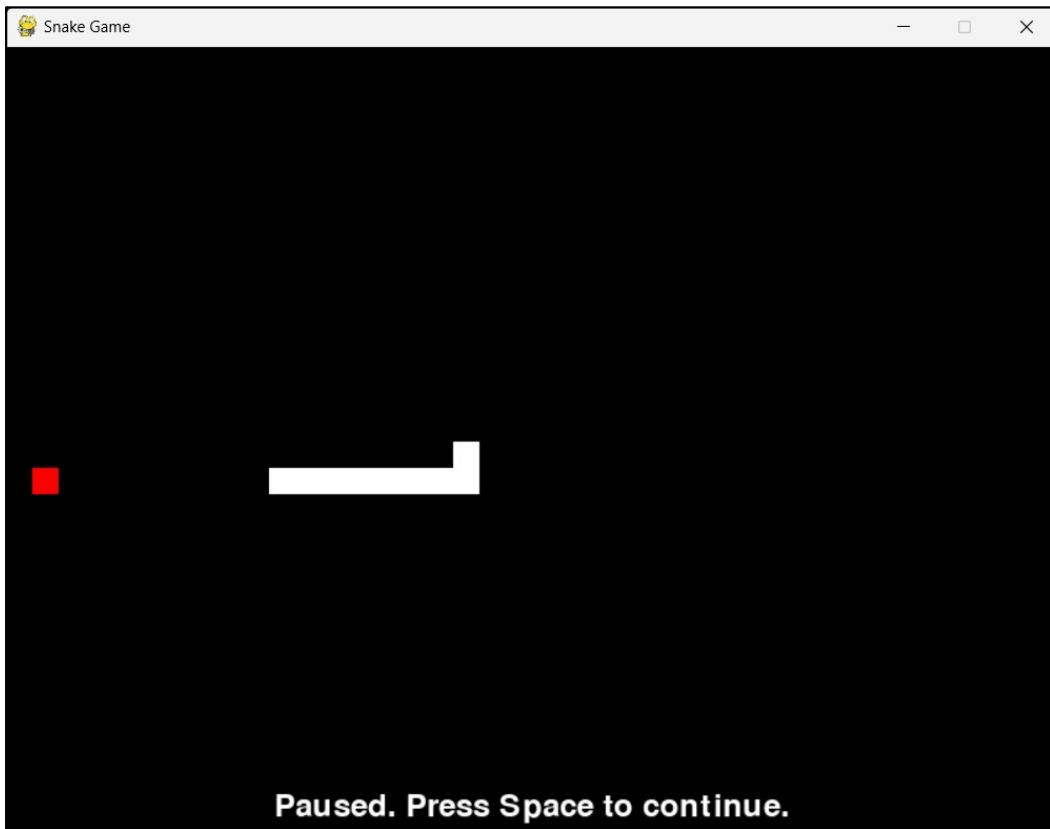
# AI for Productivity and Work



# Demo – Data Analysis

- **Summarize scientific research papers**
  - “ELI5 – Explain Like I’m 5”
- **Analyze spreadsheets**
- **Automated Data Preparation**
  - “Create a list of all US zipcodes and their associated City/State”
  - But again, beware of hallucinations. Validate anything critical.

# Demo – Coding Assistance



- **AI can help with software development and programming**
- **Coding assistance tools like Tabnine or GitHub Copilot (free tiers)**
- **Claude prompt: “Write the game of snake in Python”**

# Demo – AI Design Tools

- Utilize AI for graphic design, image editing, etc.
- Free online tools like PixrayAI, Photosonic, etc.
- AI can generate, edit, upscale images



# AI as Entertainment



# AI as a Writing Assistant

- **“You are an expert AI writing assistant with a focus on historical fiction.”**
- **“Help me design a world that is dynamic and feels alive to the reader. It should be deep and full of intrigue, with multiple layers of conflict and drama.”**



# AI for Audio/Music Generation



- **AI tools can generate music, audio, sound effects, etc.**
- **Examples: Riffusion, AudioShake, AnyCap, Suno**
- **Extra fun: Have AI generate the lyrics and provide them to Suno**

# The Future of AI



# Emerging AI Capabilities



- **Rapid advancements in AI technology**
- **More powerful language models, multimodal AI**
- **Increasing capability to understand and generate content**
- **Potential for more human-like interaction and reasoning**

# Ethical Implications

- **Need for responsible development and deployment of AI**
- **Considerations around bias, privacy, transparency, accountability**
- **Balancing benefits with potential risks and misuse**
- **Importance of ethical frameworks and guidelines**



# Societal Impact

- **AI poised to transform many industries and domains**
- **Potential for significant economic, social implications**
- **Need to consider impact on jobs, education, etc**
- **Opportunity to harness AI for good, but proactive governance needed**



# Conclusion



- **Important to stay informed about AI developments**
- **There are many opportunities to learn, explore, and leverage AI technologies**
- **But there is also a need for critical thinking, responsible use**
- **Let's keep discussing and learning together!**

# **Questions?**

# Resources

- **Youtube**
  - [https://www.youtube.com/@matthew\\_berman](https://www.youtube.com/@matthew_berman)
  - <https://www.youtube.com/@AIJasonZ>
- **Blogs/News**
  - <https://danielmiessler.com/>
  - <https://aiweekly.co/>
- **Online course**
  - <https://www.coursera.org/learn/ai-for-everyone>