AI Overview

What is AI?

A machine-based system that can, for a given set of human-defined objectives, make predictions, recommendations or decisions influencing real or virtual environments (from National Artificial Intelligence Act of 2020)

Discriminative AI

Relies on EXISTING data
Analyzes patterns and makes predictions

- Spam blockers
- Image recognition
- OCR (readable scans)
- Siri and Alexa
- Medical diagnostic tools

Generative AI

Creates NEW content
Learns patterns from large amounts of data, and creates content based on these patterns

- Chatbots (ChatGPT, Copilot, Gemini)
- Media creation
- Product development and design

The focus of today's class is Generative AI

How does it work?

Machine Learning:

- Models learn and improve based on input data. AI makes predictions, recognizes patterns and solves problems *without* specific instructions
- Patterns, not rules
- Possibilities, not absolutes

- **Large Language Models (LLM):**
- **Patterns and relationships are learned from gigantic datasets**
- **Focuses on natural language expression**

Pros

- Saves time doing tasks that would take a human much longer
- Creates content that doesn't require specialized skills
- Assists with brainstorming

Cons

- Lacks common sense, etc.
- Hallucinates (an average of 3%)
- May be out of date (eg 2024 Olympics)
- Can be used unethically to create progaganda and disinformation
- Content originators may not be compensated properly
- Your information may not be private

Truth in AI: SIFT

- Stop
- Investigate
- Find Better Coverage
- Trace Claims

Still not sure?
Call or write the Library!

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ChatGPT
chatgpt.com

- Free version (GPT 3.5) is ungrounded
- Paid version (GPT 4) is grounded
- The free version cannot generate images
- ChatGPT was created by **OpenAI**
- GPT: Generative Pre-trained Transformer
- Trained on Internet data

MS Copilot
copilot.microsoft.com

- Works well with MS Office
- Can provide references and citation links
- Runs on OpenAI GPT4
- Free version limited to 5 responses per conversation
- Delivers more CURRENT information (December 2023) and includes links to sources
- Has an image generator, analyzes existing images

Google Gemini
gemini.google.com

- Paid version includes Google One services
- Integrated with web and Google services
  - YouTube
  - Maps
  - Flights
- No limit to the number of conversations

Additional AI Options

- Canva: canva.com (requires free account)
- PerplexityAI: perplexity.ai
- Elicit: elicit.com (for research)
- HeyGen: heygen.com (video translation)
- Researchrabbit: Researchrabbit.ai
- Claude: claude.ai

Image Generation:

- Google Gemini
- MS Copilot
- Dall-E
- MS Designer
- MidJourney ($)
- Stable Diffusion ($)
- Adobe Firefly ($)
- ChatGPT PLUS ($)

Prompts

- I have sugar, flour, eggs, vanilla, and molasses. I don't have any brown sugar. Find me a cookie recipe that isn't gingerbread.
- I would like a recipe with ground beef. I don't want anything with tomatoes.
- I'm applying for a job as a marketing coordinator at a non-profit. Write me a cover letter that focuses on my background with *Feed My Starving Children*. Don't focus on education because I don't have a bachelors degree.
- Pretending you are Yoda, give me directions from Wheaton, IL to Springfield, IL.
- I want to travel to Denver, CO from Wheaton, IL. What are some interesting stops along the way?
- Write me a love song, breakup song, protest song, cheesy ballad, etc.
- What are the best sports cars for very tall people. I don't want to spend more than 50K.
- I just read *The Heaven and Earth Grocery Store*. What should I read next?
- I'm planning a party for a 50th anniversary. The couple likes to golf, read, and dance. They do not like to travel. Give me some suggestions for games to play during the party.
- Create a resume for an accountant with 25 years of experience with one company
- Create Trivia questions about George Washington that are appropriate for a middle school audience
- Summarize this article...

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