

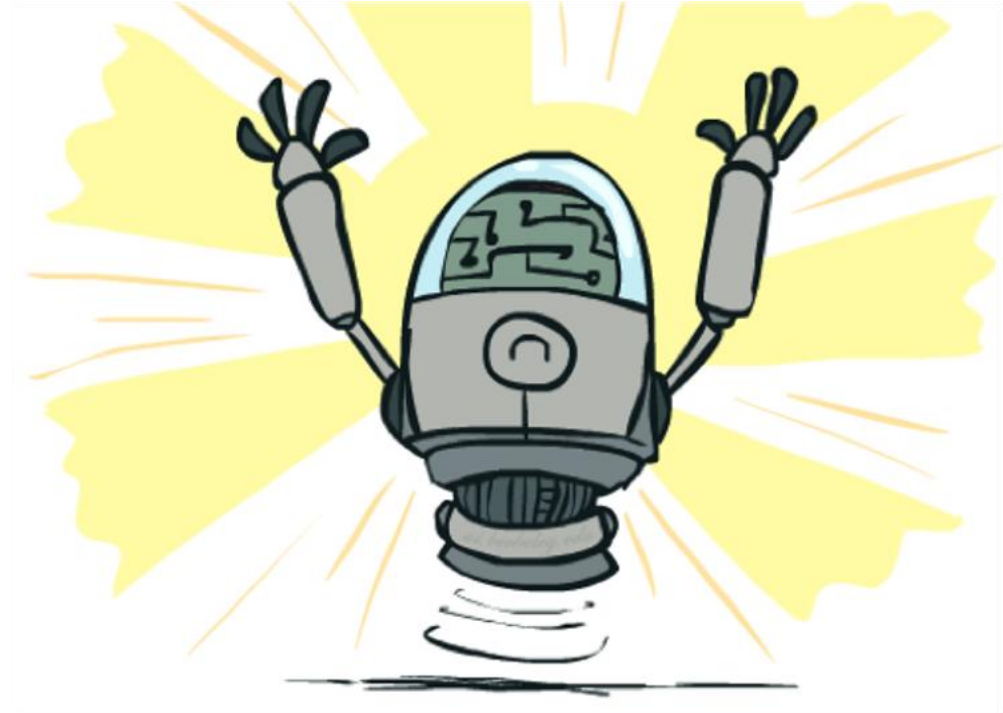
Introduction



CSE 473: Introduction to Artificial Intelligence

Overview

- Introductions
- *What is Artificial Intelligence?*
- *What is CSE 473?*
- Course Logistics
- Week 1 Preview



Illustrations by [Ketrina Yim](#)

About Me



Megan Hazen

Associate Teaching Professor

- **Teaching:** Intro to AI & data science classes; capstone and project courses
- **Computing interests:** Search & machine learning; Data science; AI ethics and policy; 25 years experience in intelligent systems
- **Free time activities:** biking; backpacking; Girl Scouts
- **Office hours:** Friday 1:00-2:15 PM (CSE 462)

Teaching Assistants

- Jack Curry
- Krisha Khandelwal
- Hannah Lee
- William Ong
- Entong Su
- Rongwu Danny Xu
- Yunchu Zhang

Get to know your TAs

Visit the [staff page](#).

Visit office hours.

Chat on Ed.

Getting to Know You

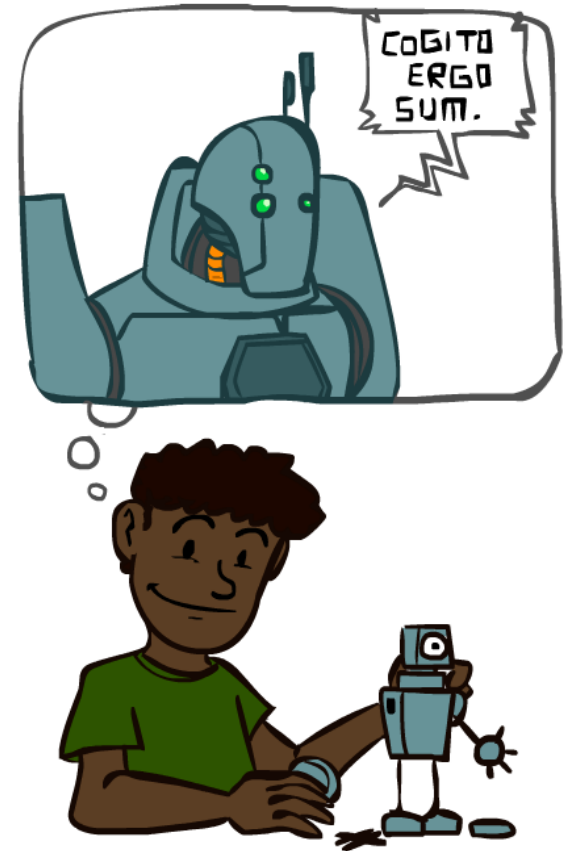
- First, **introduce yourself** to your neighbor and talk about:
 - Why you're taking CSE 473
 - Your experiences with and attitudes towards AI
- Then, fill out the **course welcome questions**
 - Handout with each lecture – there are no wrong answers

What is Artificial Intelligence?

Conceptions of Intelligence

CONTEXT

- *What does it mean for X to be **intelligent**?*
 - Philosophy (what constitutes knowledge?)
 - Neuroscience, Biology (how do brains process information?)
 - Economics (do intelligent agents act rationally?)
 - Psychology, Sociology (how do agents learn and interact?)
 - Linguistics (how do agents communicate?)
 - Mathematics, Computer Science (how to represent information?)
- *So how should we define **artificial intelligence**?*

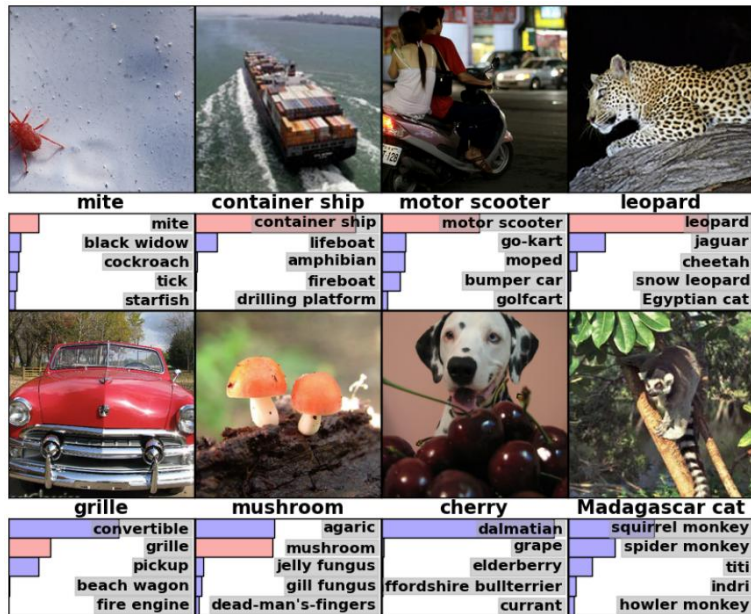


Defining “Artificial Intelligence”

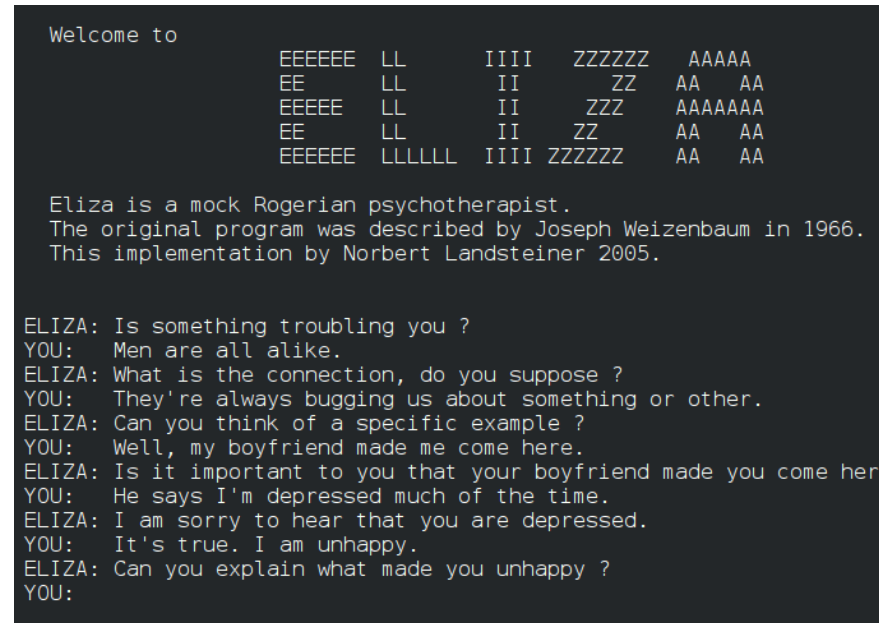
DEFINITION

- In relation to human intelligence:
 - “how to make machines...solve kinds of problems now reserved for humans” (McCarthy et al. 1955)
 - Machines that can “think humanly” and/or “act humanly” (Russell and Norvig)
 - “AI tasks are often considered ‘intelligent’ because we can imagine humans doing them well; non-AI tasks are usually ones that (most) humans are terrible at.” ([UW CSE](#))
- A working definition:

A class of computer systems that demonstrate the ability to achieve specified **objectives** through independent **action**.



[AlexNet](#) Image Classification (2012)



[ELIZA](#) Chatbot (1966)



“[Mechanical Turk](#)” Chess Player (1770)

Artificial Intelligence?

“An attempt will be made to find how to make machines use language, form abstractions and concepts, solve kinds of problems now reserved for humans, and improve themselves.

We think that a significant advance can be made if we work on it together for a summer.”

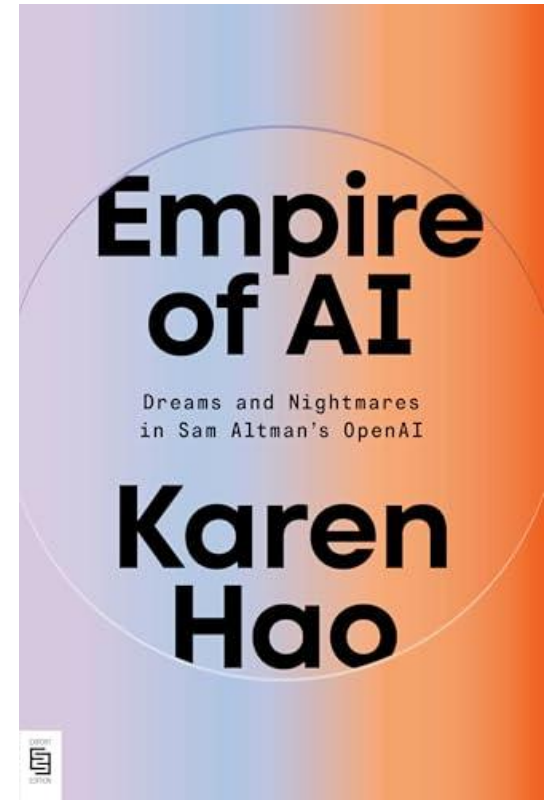
*McCarthy, Minsky, Rochester, and Shannon
[Dartmouth Workshop Proposal](#) (1955)*

1956: The Birth of “Artificial Intelligence”

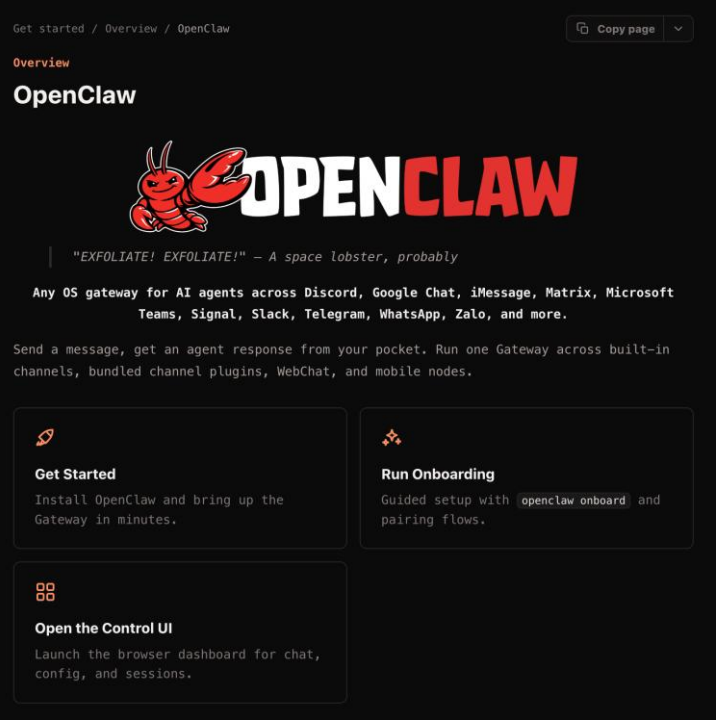
A Short History of Artificial Intelligence

CONTEXT

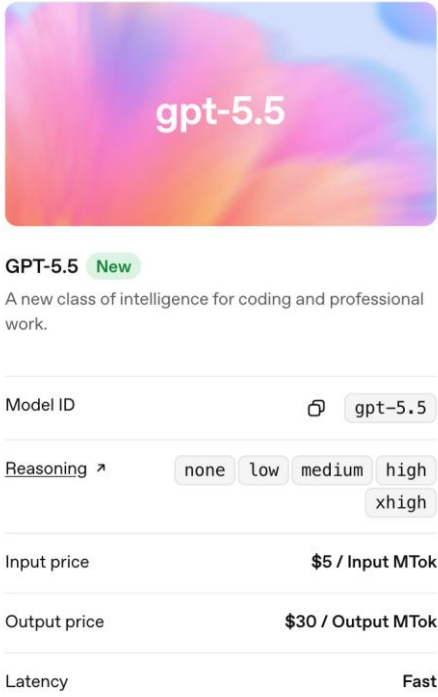
- 1940s - 1950s: Beginnings
 - 1943: McCulloch and Pitts: Boolean circuit model of the brain (early neural networks)
 - 1950: Turing publishes “Computing Machinery and Intelligence” (Turing Test)
- 1956 - 1960s: Birth of “AI”, Early Days
 - 1950s: Early AI programs: chess, checkers, theorem proving
 - 1956: Dartmouth workshop on AI
- 1970s - 1980s: AI Winter, Knowledge-Based Approaches
 - 1960s: Research on perceptrons, machine translation plateaus
 - 1970s: Funding for AI research dries up, industry turns to knowledge-based systems
- 1990s - 2010s: Statistical Approaches
 - 1990s – : Focus on uncertainty, probabilistic approaches
- 2012 – Present: Big Data, Big Compute
 - 2010s: Research (e.g. “AlexNet”) shows GPUs can be used to make neural networks effective
 - 2017: Vaswani et al. publish “Attention Is All You Need” (transformer architecture)
 - 2022: OpenAI publishes ChatGPT



Recommended Reading:
Karen Hao, [Empire of AI](#) (Ch. 4)



[OpenClaw](#) (f.k.a. ClawdBot)



OpenAI [GPT 5.5](#)



What is Purple?

Purple is the University of Washington’s enterprise generative AI tool. It offers a ChatGPT-like interface and allows users to interact with approved AI models. It’s the University-supported alternative to publicly available AI tools, designed to align with UW’s commitment to privacy and security.

What can Purple Do?

- Help draft, edit, and summarize content
- Support teaching and learning
- Assist with analysis
- Solve technical and coding challenges
- Brainstorm and problem solve
- Provide a UW-managed environment

Purple complements your expertise, helping you work more efficiently and creatively. Whether you’re drafting materials, analyzing data, or exploring new ideas, Purple offers support for your work. Ready to dive in? Use the link below to launch Purple then come back and review support options found here.

[UW Purple](#)

The New York Times

OPINION
NICHOLAS KRISTOF

The Data Center Conundrum

Sept. 9, 2026



[Data Center Controversy \(NYTimes\)](#)

Reuters

World ▾ Business ▾ Markets ▾ Sustainability ▾ Legal ▾ More ▾ My News

EXCLUSIVE

Anthropic warns AI may pose 'existential risks to humanity' in IPO filing

By Echo Wang and Aditya Soni

September 28, 2026 5:17 PM PDT · Updated 4 hours ago



[Existential Threats \(Reuters\)](#)

AN EPOCHAL SHIFT

The turbulent AI era is here. The choices we make now are critical.

We need a plan to ensure that the good outweighs the bad.



By Bill Gates published on Wednesday, Aug 26, 2026

Work

Make AI Work For Everyone

WHAT YOU NEED TO KNOW

The transition to the AI era will be one of the most turbulent times in human history. Right now, we are not preparing adequately for that transition. If the world takes the right steps, AI will be a force for good and leave everyone better off.

[Jobs and societal impact](#)

Questions?

CSE 473: Introduction to AI



FOUNDATIONS

Search

How to find an optimal solution?

**Reinforcement
Learning**

How to learn from experience?

**Modeling
Uncertainty**

How to deal with uncertainty?

Machine Learning

How to find patterns in data?

Why Take CSE 473?

Where the goblins came from



Listen to article

6:05

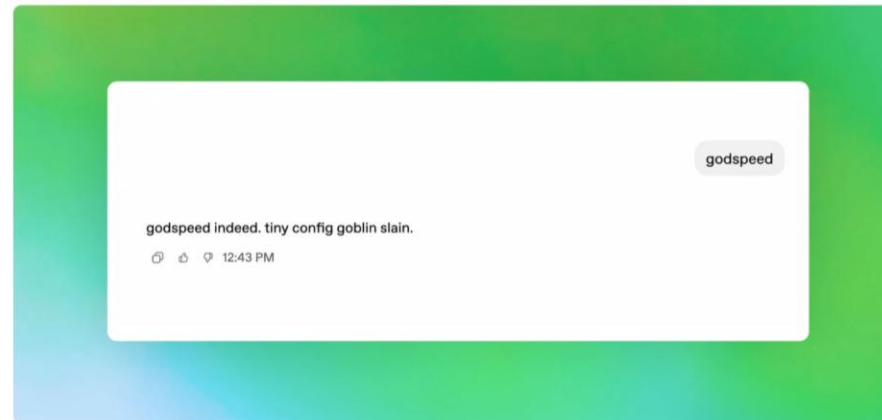


Share

Table of contents

[The first signs of creatures](#)[Solving the goblin mystery](#)[The end of the goblins](#)[Why it matters](#)

Starting with GPT-5.1, our models began developing a strange habit: they increasingly mentioned goblins, gremlins, and other creatures in their metaphors. Unlike model bugs that show up through a tanking eval or a spiking training metric and point back to a specific change, this one crept in subtly. A single “little goblin” in an answer could be harmless, even charming. Across model generations, though, the habit became hard to miss: the goblins kept multiplying, and we needed to figure out where they came from.



In early testing, GPT-5.5 in Codex showed an odd affinity for goblin metaphors.

“Where the goblins come from” ([OpenAI](#))

Questions?

Course Components

Lectures

- Introduce concepts
- Establish context
- Provide examples
- Check your understanding with [practice problems](#)

Homeworks

- Assess your understanding of key concepts
- Hosted on [Gradescope](#)
- Due approximately two weeks after release

Projects

- Apply your knowledge
- Specifications on [course website](#), submissions through [Gradescope](#)
- Mostly autograded

Assessments

- Assess your ability to apply fundamentals to new problems
- [Assessment 1: Friday, Oct 23](#)
- [Test 2: Friday, Nov 13](#)
- [Assessment 3: Tuesday, Dec 15](#)

Course Policies

Read the syllabus! (cs.uw.edu/473/syllabus)



- Course Infrastructure

- cs.uw.edu/473 for course information
- [EdStem](#) for communications and Q&A
- [Gradescope](#) for assignments
- Panopto ([Canvas](#)) for lecture recordings

- Textbook

- *Artificial Intelligence: A Modern Approach*

- Late Work

- Homeworks and projects may be submitted up to 2 days late without penalty
- **Late penalty of 20%** for each additional day



- Grading

- **~35%:** Homework Assignments
- **~30%:** Projects (x4)
- **~35%:** Assessments
- **Up to 10%:** Practice problems

Collaboration and AI Use

The goal of this course is to cultivate and assess your ability to understand and apply core concepts in AI.

- Collaboration

- *Encouraged* towards understanding course concepts
- All assignments must be completed individually — all work must be your own
- Sharing or accessing solutions (including code) is *prohibited*

- AI Use

- Allen School policy AI as a Reference Tool
 - AI may be used for research, explanations, and learning
 - But AI may not be used to generate answers or code



* Any student work found by CSSC to be in violation of course policies will receive a score of 0 (0.0 for the course for repeated violations)

* All tools and sources for projects must be cited and accompanied by a short AI usage reflection.

Support and Accommodations

- Every enrolled student deserves to have a great experience with this course.
- Disability Accommodations
 - Established via [Disability Resources for Students](#) (DRS)
 - Email Megan (mh75@cs) to discuss accommodations
- Religious Accommodations
 - Requested within the first two weeks using the [Religious Accommodations Request Form](#)
- General Support
 - Having questions or getting stuck is expected! Use [OH](#), [Ed](#), and your peers as a first stop
 - If you have extenuating circumstances, make a private Ed post or email Megan (mh75@cs)

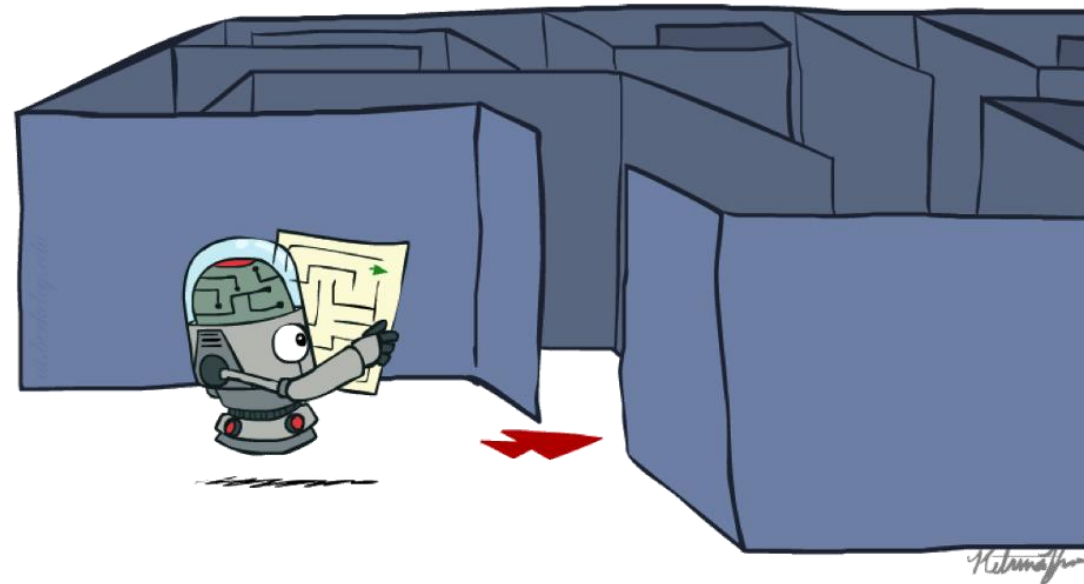
Questions?

Preview: Search

EXAMPLE

How to find an optimal solution...

- *...efficiently?*
- *...with imperfect information?*



that's it for today!

SUMMARY

- *What is AI?*
- *Why Take CSE 473?*
- Course Logistics

UPCOMING

- Agents and Environments
- Search Problems
- Search Algorithms

REMINDERS

- **Fill out welcome survey!**
- Check Ed, Gradescope access
- Project 0 (optional) released