
CS 232:
Artificial Intelligence

Fall 2023

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Wellesley College

Help hours

Help hours for the rest of the semester:

- ♦ My hours **today**: 3:30-4:30
- ♦ Lepei's hours **Saturday**: 4-6
- ♦ My hours **Monday**: 3:30-4:30
- ♦ Lyra's hours **Wednesday**: 2-4
- ♦ My hours **Thursday**: 3-4

Final Project Presentations

- ◆ 2-3 minutes per person
- ◆ 1 slide (upload to Google Drive by 7am on Tuesday)
- ◆ Please be respectful of your classmates' presentations

PLEASE JOIN US FOR A



CS Holiday Party

ALL CS, MAS, DS AND CLCS
MAJORS AND MINORS.

THERE WILL BE TEA, SNACKS,
GAMES AND GINGERBREAD
HOUSES!

THURSDAY, DECEMBER 14, 2023

TIME: 4-6 PM

SCIENCE CENTER LEAKY BEAKER

[RSVP Here](#)



Disability Accommodations:
disabilityservices@wellesley.edu
or 781.283.2434



Questions:
cdelcour@wellesley.edu

RUR Discussion

Questions

- A. How are the robots in R.U.R. similar or different to AI technology that we've discussed in the course? Do you think they are realistic?
- B. The accountant character claims that one of their mistakes was in the vast number of robots that they built. Anxieties around AI technology often involve the speed at which AI can work relative to humans. Connect this theme of the play back to our discussion of AI art generation.
- C. Do you think this is a play about Artificial Intelligence? Why or why not?
- D. One of the key themes in Act I is that the robots have no interest in anything, no preferences. Do you think this is a problem? Or as Harry Domin claims, is it desirable for AI?
- E. Čapek's choice of the word *robot* for the play's artificial workers was derived from a Czech word for forced laborer. Reflect on the relationship between labor and automation in R.U.R. and in contemporary debates about AI.
- F. What do you make of the robots' decision to spare Alquist because he is the only human who works with his hands? Do you think he is the character who is most like the robots in the play, or are the robots mistaken?

How do we evaluate
future AI?

“A more serious byproduct of the tendency to talk about machines in anthropomorphic terms is the companion phenomenon of talking about people in mechanistic terminology. The critical reading of articles about computer-assisted learning... leaves you no option: in the eyes of their authors, the educational process is simply reduced to a caricature, something like the building up of conditional reflexes. For those educationists, Pavlov’s dog adequately captures the essence of Mankind — while I can assure you, from intimate observations, that it only captures a minute fraction of what is involved in being a dog.” --- Edsgar Dijkstra

Turing Test

"I believe that in about fifty years' time it will be possible to programme computers, with a storage capacity of about 10^9 , to make them play the imitation game so well that an average interrogator will not have more than 70 percent chance of making the right identification after five minutes of questioning. The original question, 'Can machines think!' I believe to be too meaningless to deserve discussion. Nevertheless I believe that at the end of the century the use of words and general educated opinion will have altered so much that one will be able to speak of machines thinking without expecting to be contradicted."

—Alan Turing, 1950

ELIZA

Welcome to

```
EEEEEE LL      IIII  ZZZZZZ  AAAAA
EE      LL      II     ZZ     AA   AA
EEEEEE LL      II     ZZZ     AAAAAA
EE      LL      II     ZZ     AA   AA
EEEEEE LLLLLL IIII  ZZZZZZ  AA   AA
```

Eliza is a mock Rogerian psychotherapist.
The original program was described by Joseph Weizenbaum in 1966.
This implementation by Norbert Landsteiner 2005.

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ELIZA: Is something troubling you ?
YOU:   Men are all alike.
ELIZA: What is the connection, do you suppose ?
YOU:   They're always bugging us about something or other.
ELIZA: Can you think of a specific example ?
YOU:   Well, my boyfriend made me come here.
ELIZA: Is it important to you that your boyfriend made you come here ?
YOU:   He says I'm depressed much of the time.
ELIZA: I am sorry to hear that you are depressed.
YOU:   It's true. I am unhappy.
ELIZA: Can you explain what made you unhappy ?
YOU:
```

MIT circa 1966

ELIZA

"[In] artificial intelligence ... machines are made to behave in wondrous ways, often sufficient to dazzle even the most experienced observer. But once a particular program is unmasked, once its inner workings are explained ... its magic crumbles away; it stands revealed as a mere collection of procedures ... The observer says to himself "I could have written that". With that thought, he moves the program in question from the shelf marked "intelligent," to that reserved for curios."

— Joseph Weizenbaum, in the ELIZA paper

Two Truths and an AI

Two Truths and an AI

Write a story about a goat who wears boots and likes to eat cactus.

Submission 1

Living in the Appalachian Mountains was Bert the goat. He has always been fond of cacti and goes out everyday to snack on one. Wearing his blue rainboots he goes out in search of some yummy cacti. The prickly part of the cacti never bothered him because he has strong teeth and tough skin. Most goats didn't enjoy cacti the same way that Bert did, but that only meant that there was more for him!

Submission 2

A mountain goat named billy lived in the Himalayas and migrated down to the desert in the winter. It was now mid-January and it had missed its migration and in the gloom of the winter all he could think about was the sweet savory taste of the cactus. The crunchy shell with the gooey center called it from miles away. Billy dreamt of the heat and the cactus. This would be a hard winter for Billy. His age didn't allow him to continue this yearly migration and this would be how his coming years would look and that thought scared him.

Submission 3

Once there was a goat named Billy who lived in the desert. Billy was a bit of a mischievous goat and he always found himself getting into trouble.

One day, Billy stumbled upon a strange looking plant with spiky green leaves. Being the curious goat that he was, Billy couldn't resist taking a bite. But as soon as he did, he realized his mistake. The plant was a cactus!

Billy's mouth was filled with prickly spines and he was in a lot of pain. He ran around the desert bleating in agony, trying to get rid of the spines. But no matter what he did, they wouldn't budge.

Just then, a kind old man who lived in the desert came across Billy. He saw the poor goat's predicament and took pity on him. The old man carefully plucked out the spines from Billy's mouth, making sure not to hurt him any further.

Two Truths and an AI

Describe a favorite piece of clothing of yours from when you were younger. Tell us about how old you were when you had it, and why you remember it still.

Submission 1

When I was younger, I had a pair of overalls that I absolutely loved. I must have been around five or six years old when I had them. They were blue with white polka dots and they had big pockets on the front and back. I used to fill the pockets with all sorts of things like rocks, leaves, and acorns that I would find on my adventures in the backyard.

I remember these overalls because they were so comfortable and they made me feel like I could do anything. I would wear them all the time and I would always feel confident and unstoppable in them. I remember feeling like I could climb trees and build forts and have all sorts of fun in my overalls.

Submission 2

My favorite item of clothing when I was younger was a pair of blue and green striped leggings. I wore those leggings when I was 4 years old in preschool. I remember because my mom always tried to dress me up in matching outfits, but I would refuse and instead put on those leggings. I thought it was more fun to wear colorful outfits with clashing patterns.

Submission 3

I remember having a light purple dress with small white flowers, which I wore when I was about 7 years old. It was my favorite because not only did it look cute, but it was soft and versatile. I could wear it out to almost any occasion. I could also wear it around at home as comfortable wear. I was looking through old photographs the other day, and I was nostalgically reminded of my beloved dress and childhood days.

Two Truths and an AI

If Wellesley CS released an album, what would it be called? What would the cover art look like?

Submission 1

If the Wellesley College Computer Science Department released an album, it would be called "On the Way to Greatness". Various students would sing on each track of the album, and the songs would be about the many difficulties but eventual successes of students studying Computer Science at Wellesley College.

The cover art of the album would be a cartoon of Wellesley College students who enjoy Computer Science and are solving a programming problem together. Students gathered around a table, researching the different possible solutions and discussing the aspects of the question.

Submission 2

If Wellesley CS released an album, it might be called "Code Beats" and the cover art could feature a colorful and abstract representation of computer code. The cover could also include the Wellesley CS logo, which is a stylized W made out of binary code. The colors on the cover could include shades of blue, green, and purple to represent the colors of the Wellesley CS logo. Overall, the cover art would aim to capture the creativity, innovation, and technical expertise of the Wellesley CS community.

Submission 3

The cover art would have blurred lines of code in the background, and the foreground has a computer. On the computer, it contains the words "Wellesley College."

Title: `public static music WellesleyCS(string theAlbum)`

Two Truths and an AI

Come up with a catchy name for a line of shampoo for poodles.

Two Truths and an AI

Describe the plot of your favorite movie as if you were explaining it to a three-year-old.

Two Truths and an AI

Tell me a memorable thing that happened to you as a child that involved one of your toys.