Artificial Intelligence
YESTERDAY DR. WILL CASTER WAS ONLY HUMAN
I am not an evil with bitter childhood craving for the extermination of the mankind...

I am a PhD student in UW CSE, studying artificial intelligence.
What is AI?

“Intelligence” is a very, very vague term...

Weak AI: a machine that performs tasks at human-level.

Strong AI: a machine with consciousness.

Superintelligence: a machine much smarter than us.
Let’s talk about weak AI.

But, define “human-level” for me please.
“Are there imaginable digital computers which would do well in the imitation game?”

Alan Turing
In Computing Machinery and Intelligence, 1950
A: What’s 2+2 equal?

B: 5.

A: Very good, you get a gold star!

B: You know I’m wrong, right?

A: You’re wrong, but whatever.
Cleverbot

7847 people talking

You.

I'm going to start talking in Spanish, just because I can.

Hola.

I love you!

Speak Spanish.

I can't.
Apple Siri, 2011
Amazon Echo, 2015
What other AI’s are there?
In other words, what do you want your computer do for you?
IBM Watson, 2011
Sorry if we didn't quite get the age and gender right -- we are still improving this feature.

Try Another Photo!
Google self-driving car, 2018?
What am I doing?
16. In the figure above, \( AC = 6 \) and \( BC = 3 \). Point \( P \) (not shown) lies on \( AB \) between \( A \) and \( B \) such that \( CP \perp AB \). Which of the following could be the length of \( CP \)?

(A) 2
(B) 4
(C) 5
(D) 7
(E) 8
Solving geometry question requires...

- Understand text
- Understand diagram
- Apply mathematical (geometry) knowledge and solve

**Text**: Siri, Watson, etc.

**Diagram**: face recognition, pedestrian detection, etc.
Demo

http://geo.dev.allenai.org:8080/vpsel/
Big Picture

- Humans learn most efficiently by solving questions
- Can computers *learn* in a similar way?
- Let computers acquire knowledge and intelligence by solving math and science questions