

Human Intelligence Reimagined:

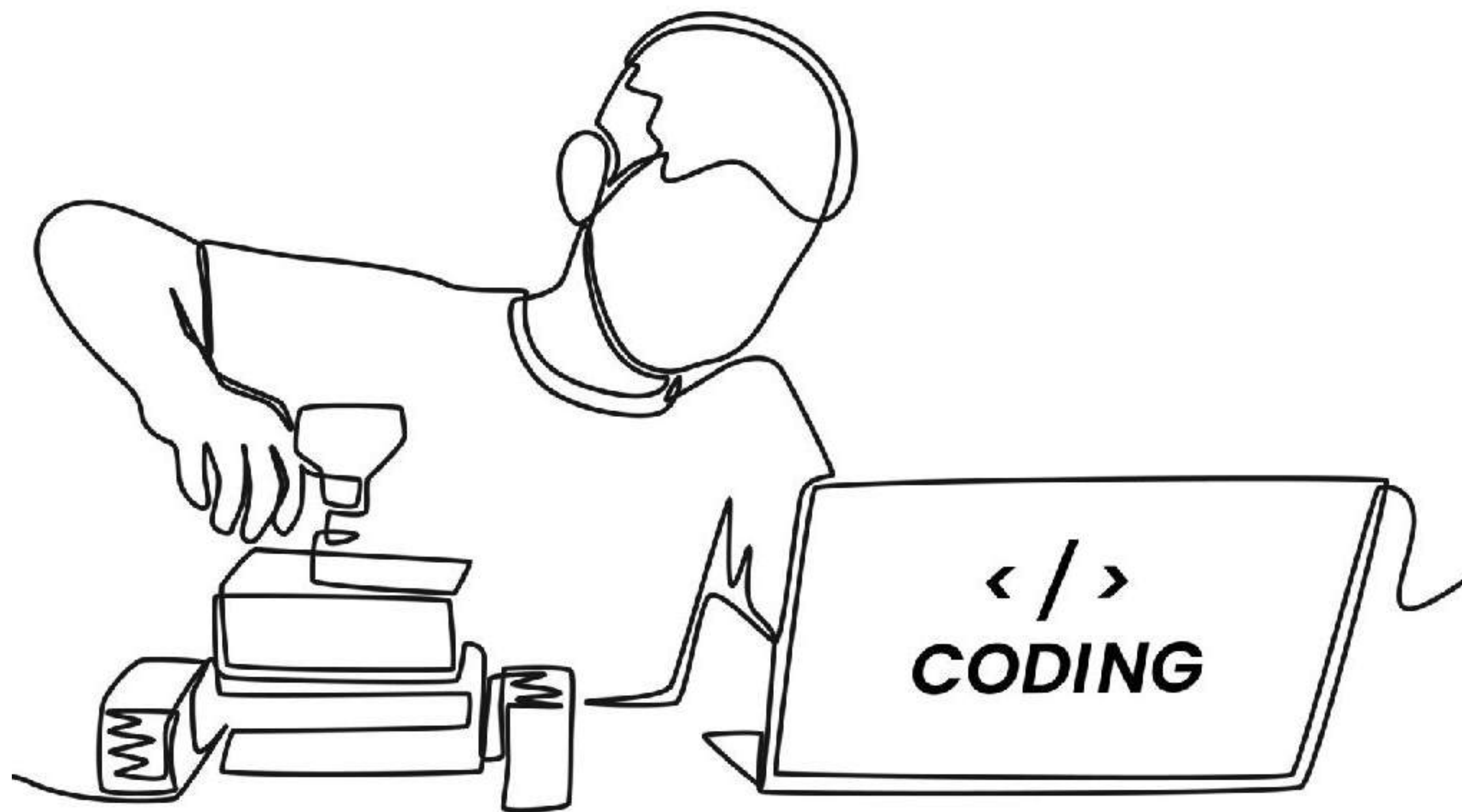
The Next Frontier in Societal Technology

Dr. Setor Zilevu | 2023

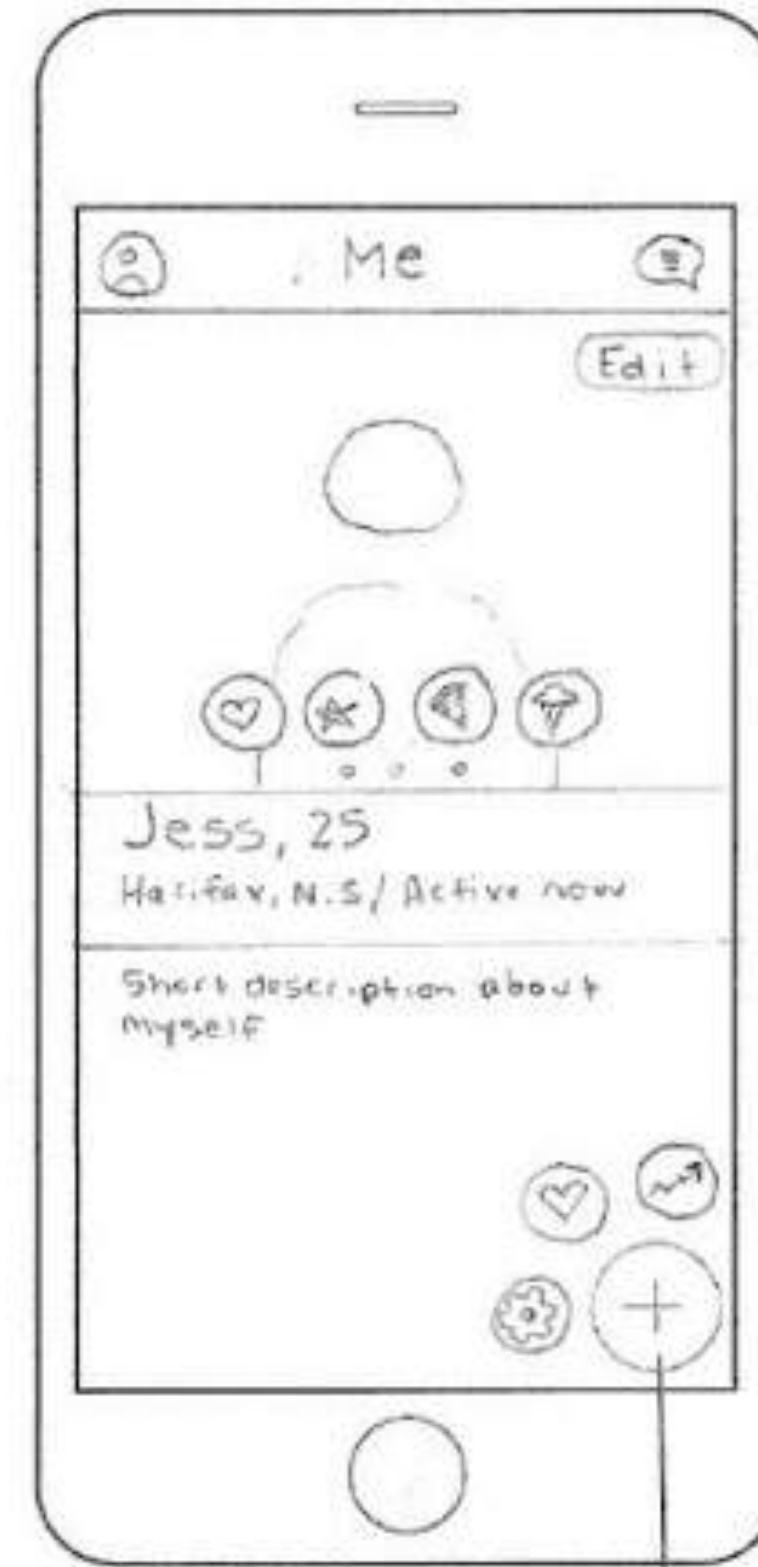
Aspiring Neurosurgeon



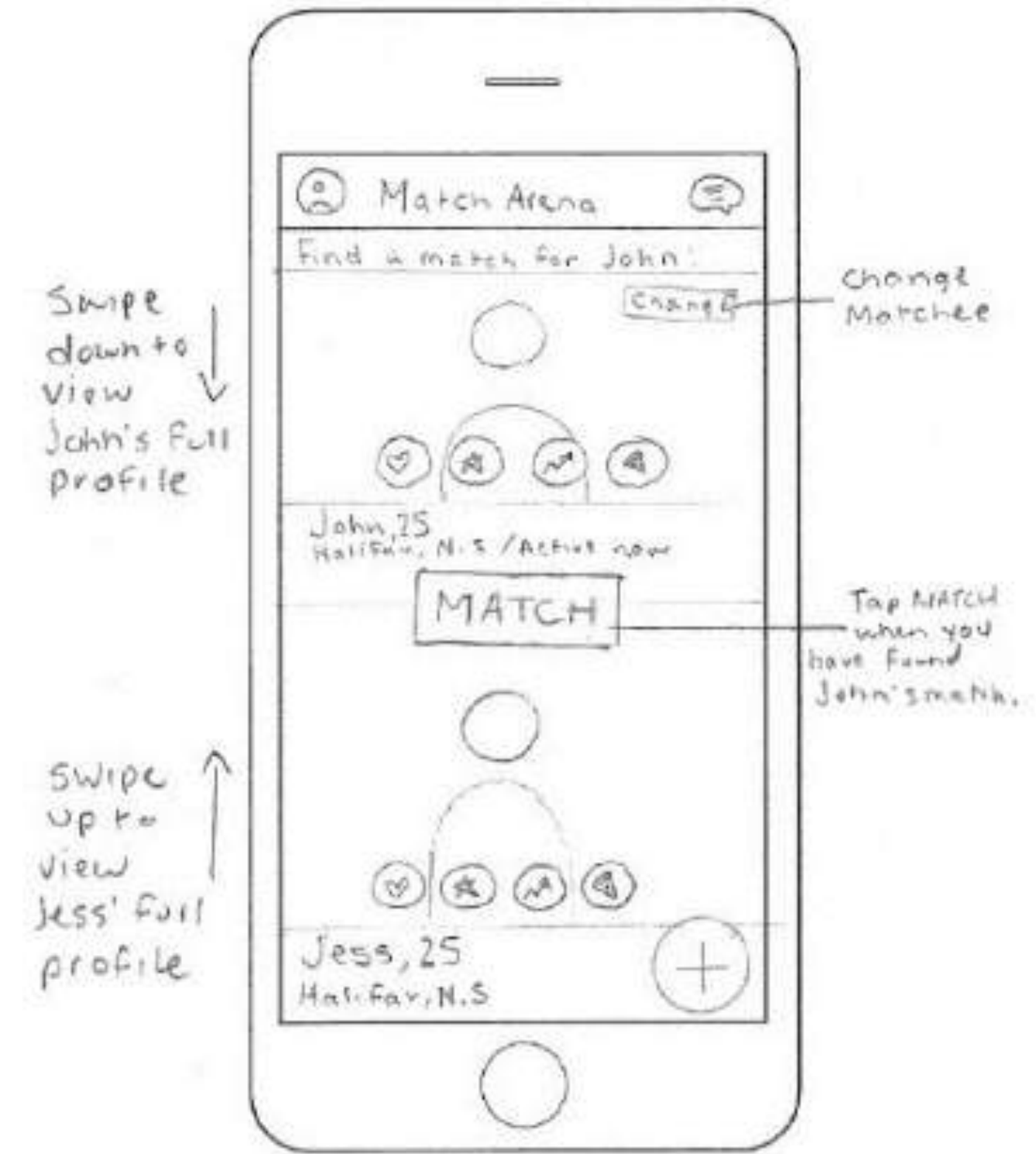
Computer Engineer



Designer & Researcher



Tapping ⊕
pops out other
navigation
options.



Swipe
down to
view
John's full
profile

Change
Matchee

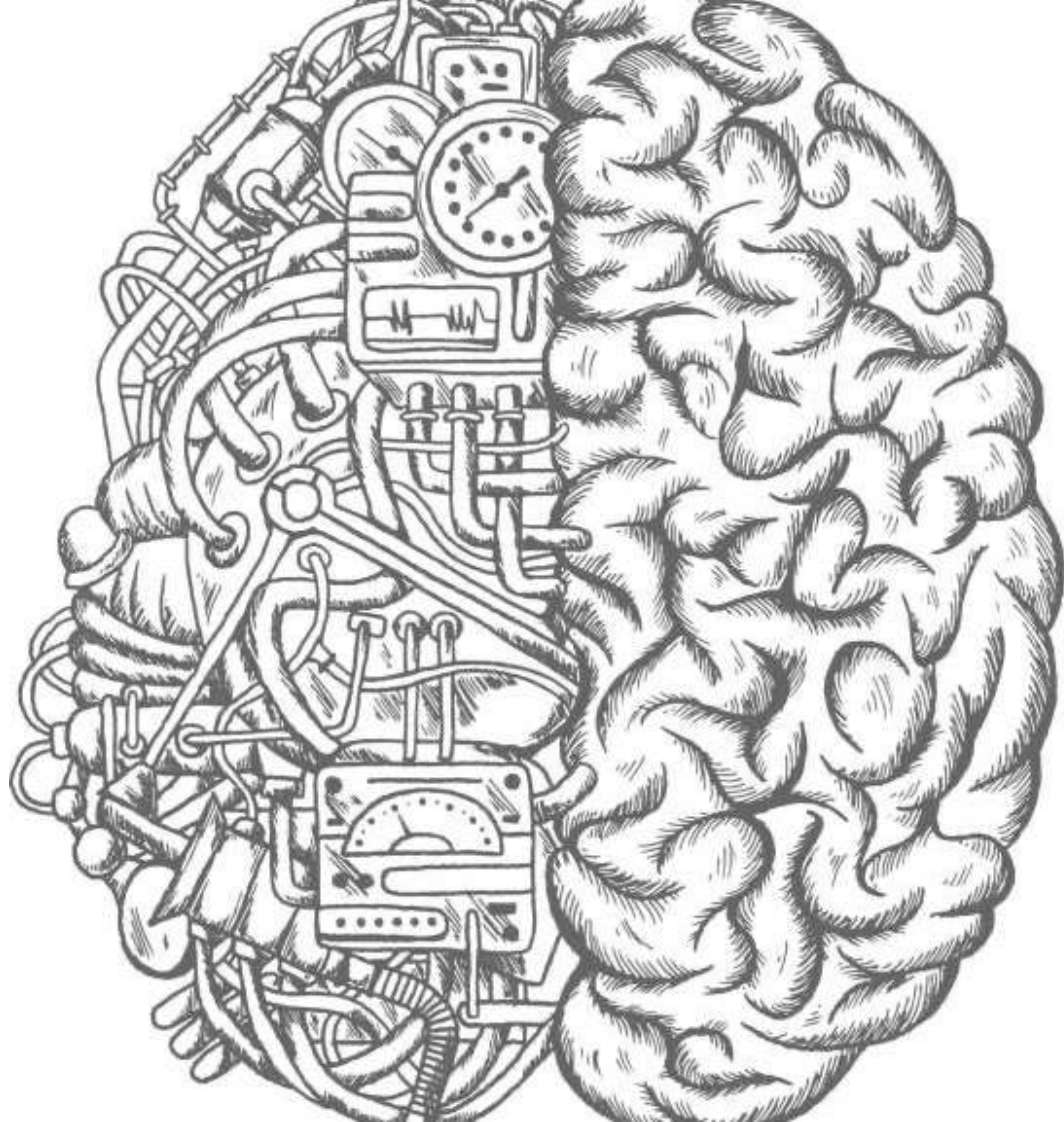
Tap MATCH
when you
have found
John's match.

Swipe
up to
view
Jess' full
profile

Swipe right to start
viewing all potential
matches

UX & AI Researcher

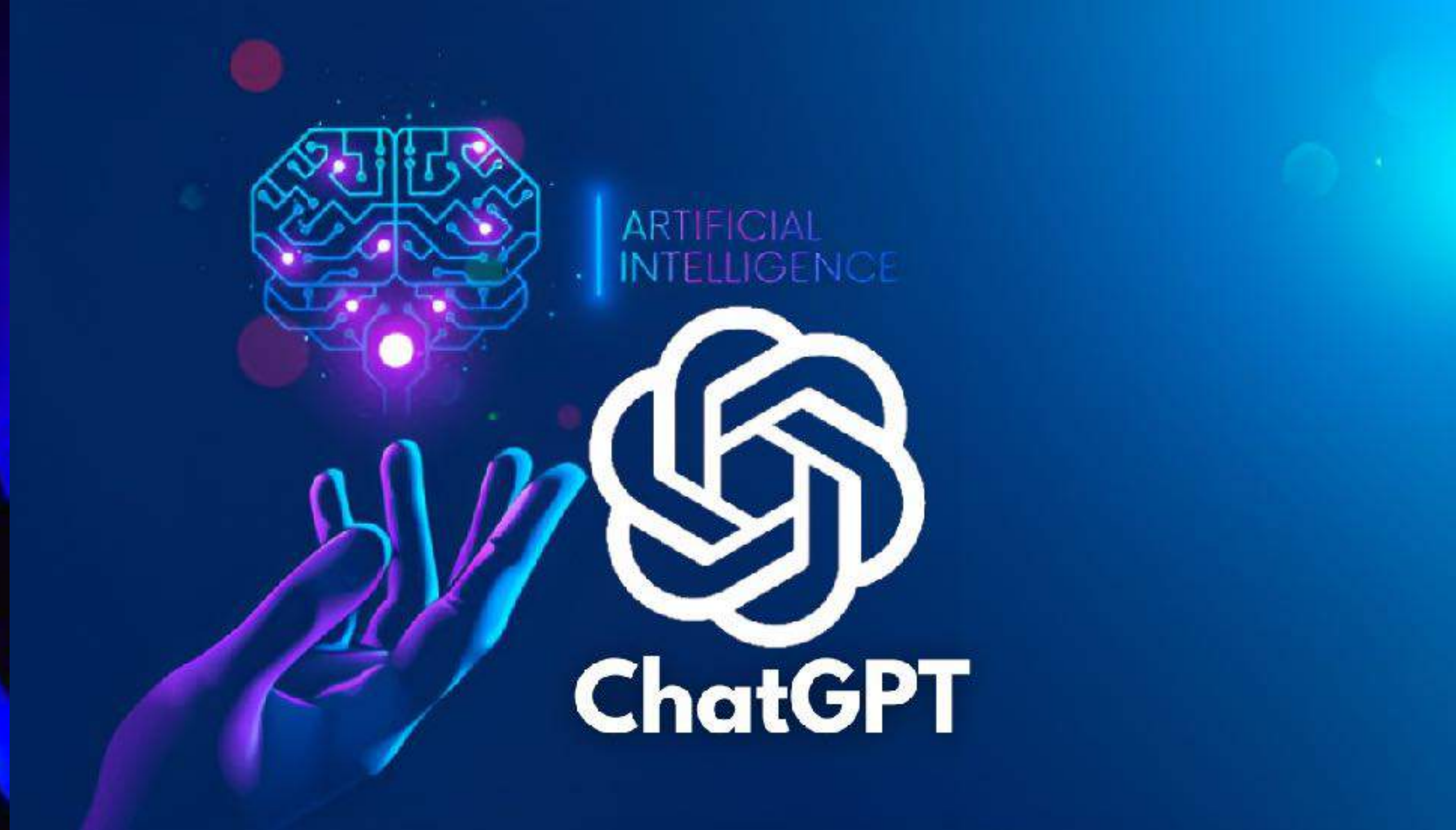
Researcher @ Meta
Professor @ NYU
Founder of Choix Labs



Choix Innovation Labs

- Our goal is to empower, not replace humans, by merging User Experience and A.I. together to build assistive technologies.
- Human-centric approach to researching, designing, and building out Artificial Intelligence applications.





Will A.I. replace us?



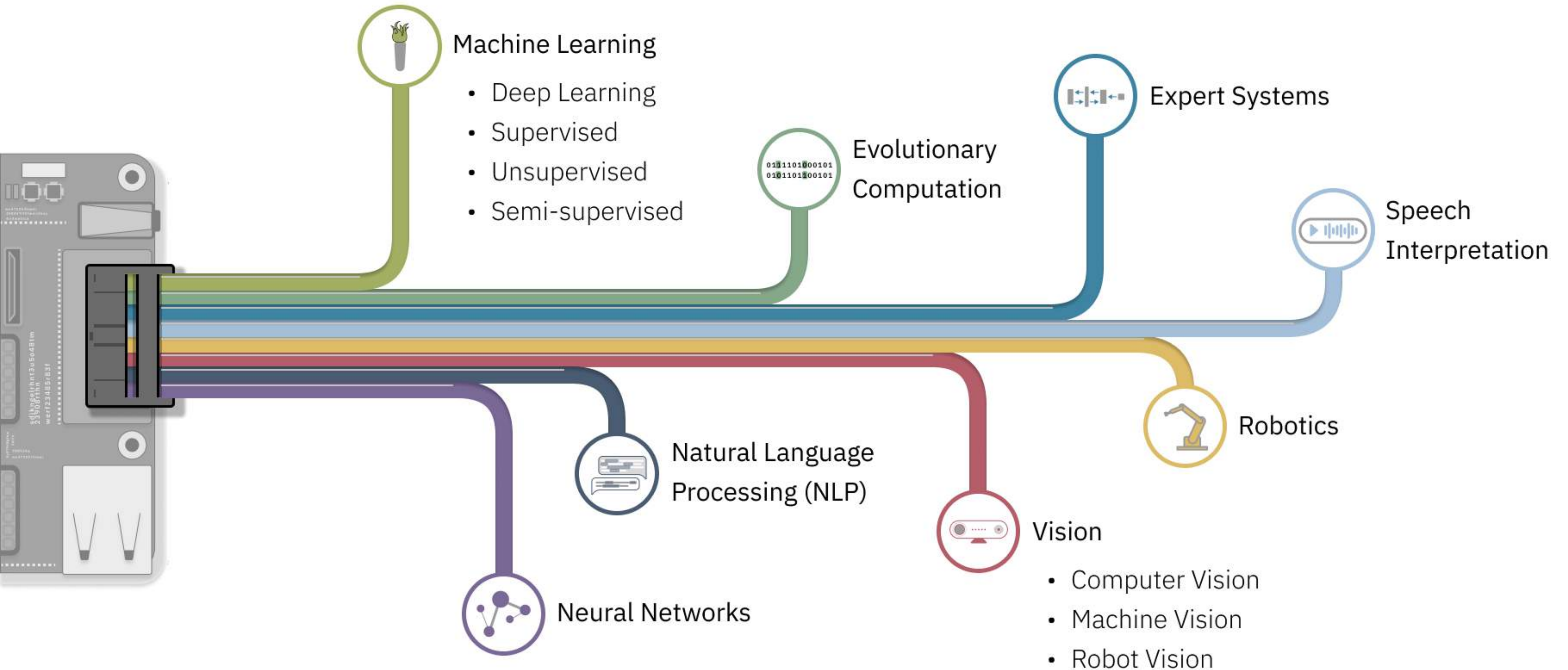
Will A.I. replace us?

Will A.I. make us *more* intelligent or *less* intelligent?





Elements of AI



1. Why, when, and how we should build AI systems.

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- 2. What should we as designers and researchers know about AI.**

- 1. Why, when, and how we should build AI systems.**
- 2. What should we as designers and researchers know about AI.**
- 3. How will humans interact with the AI systems that we build.**

A.I. is computationally very intelligent.





$$ab+ac = a(b+c)$$

$$a\left(\frac{b}{c}\right) = \frac{ab}{c}$$

$$\left(\frac{a}{b}\right) = \frac{a}{bc}$$

$$\frac{a}{b} = \frac{ac}{b}$$

$$\left(\frac{b}{c}\right) = \frac{a}{bc}$$

$$\frac{a}{b} + \frac{c}{d} = \frac{ad+bc}{bd}$$

$$f(x) \leq 5$$

$$x^2 - 4x + 5 \leq 5$$

$$x^2 - 4x \leq 0$$

$$n(B \cap C) = 22$$

$$n(B) = 68$$

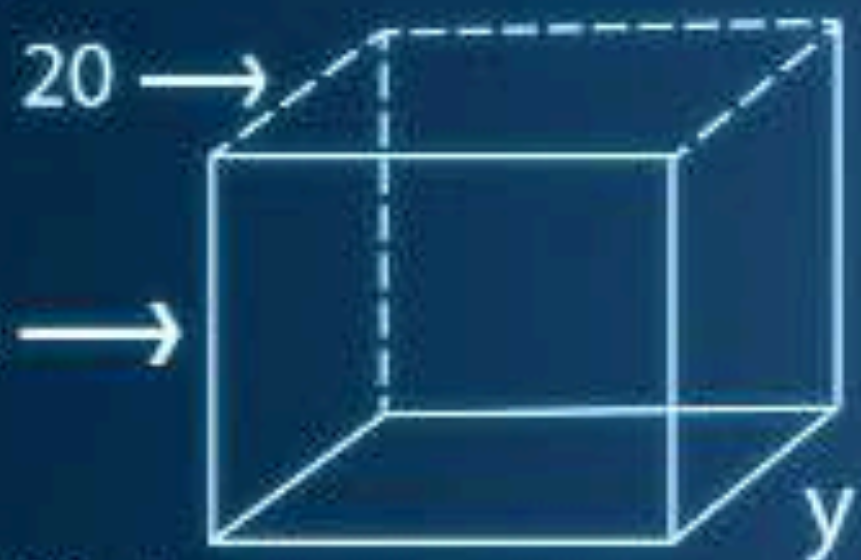
$$n(C) = 84$$

$$n(B \cup C) = n(B) + n(C) - n(B \cap C)$$

$$\bar{x}_1 = \frac{1+3+3+6+8+9}{6} = 5$$

$$\bar{x}_2 = \frac{2+4+4+8+12}{5} = 30$$

$$\bar{x}_3 = \frac{4+7+1+6}{4} = 18$$



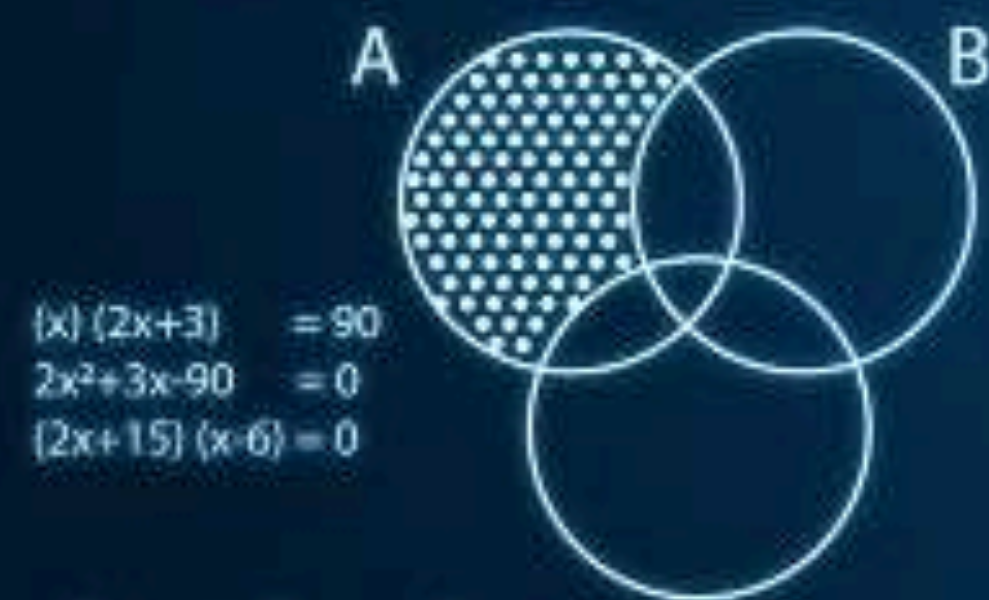
$$\log_b b^x = x$$

$$\log_a x = \frac{\log_b x}{\log_b a}$$

$$\log_b (x^r) = r \log_b x$$

$$\log_b (xy) = \log_b x + \log_b y$$

$$\log_b \left(\frac{x}{y}\right) = \log_b x - \log_b y$$



$$a^2 + b^2 = c^2$$

$$a = \sqrt{c^2 - b^2}$$

$$b = \sqrt{c^2 - a^2}$$

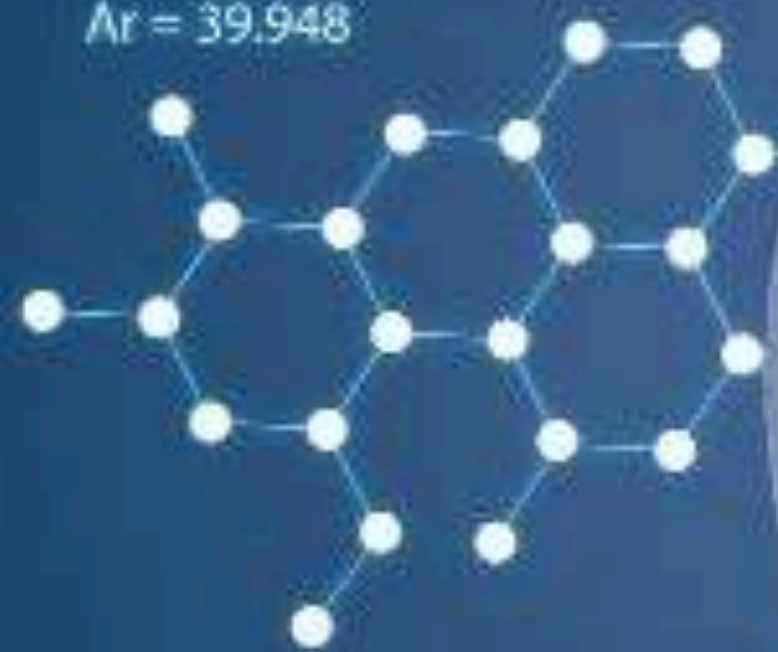
$$x^2 - a^2 = (x+a)(x-a)$$

$$x^2 + 2ax + a^2 = (x+a)^2$$

$$x^2 - 2ax + a^2 = (x-a)^2$$

$$x^2 + (a+b)x + ab = (x+a)(x+b)$$

He = 4.002602
Na = 22.989769
Ar = 39.948



$$(100^2)a + 100b + c = 0$$

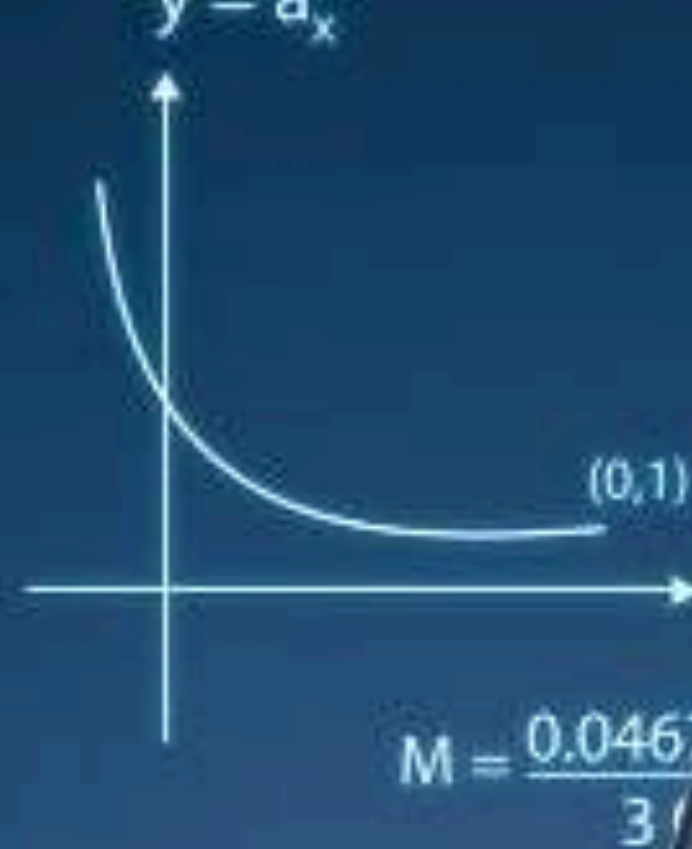
$$10000a + 100b - 5000 = 0$$

$$a_n = \frac{1}{2^{n-1}} = \frac{1}{2^{10-1}}$$

$$= \frac{1}{2^9} = \frac{1}{512}$$

$$y = ax + b$$

$$AB + BC = x + y$$



$$M = \frac{0.046755 \text{ m}}{3 \text{ s}}$$

$$\frac{a-b}{c-d} = \frac{d-a}{d-c}$$

$$\frac{a+b}{c} = \frac{a}{c} + \frac{b}{c}$$

$$\frac{ab+ac}{a} = b+c, a \neq 0$$

$$\left(\frac{a}{b}\right) \div \left(\frac{c}{d}\right) = \frac{ad}{bc}$$

$$\frac{\sqrt{3}}{2} = \frac{4\sqrt{3}}{x}$$

$$x\sqrt{3} = 8\sqrt{3}$$

$$f = \frac{R}{2}$$



$$a \geq 0$$

$$-di = a+c+(b+d)i$$

$$di = a-c+(b-d)i$$

$$fi = ac-bd+(ad+bc)i$$

$$i = a^2+b^2$$

$$a^2+b^2$$



$$2\pi rh$$

$$2\pi r(r+h)$$

$$\pi r^2 h$$

$$|a| = |-a|$$

$$|a| \geq 0$$

$$|ab| = |a||b|$$

$$ab+ac = a(b+c)$$

$$a\left(\frac{b}{c}\right) = \frac{ab}{c}$$

$$\left(\frac{a}{b}\right) = \frac{a}{bc}$$

$$\frac{a}{c} = \frac{ac}{b}$$

$$\left(\frac{b}{c}\right) = \frac{bc}{a}$$



Common sense is not so common with A.I.

S

I have a 12 liter jug and a 6 liter jug. I want to measure 6 liters. How do I do it?



Given that you want to measure exactly 6 liters using a 12-liter jug and a 6-liter jug, it's straightforward. Here's how to do it:

1. Fill the 6-liter jug to its maximum capacity.
2. Pour the 6 liters from the 6-liter jug into the 12-liter jug.

Now, you have exactly 6 liters of water in the 12-liter jug.

If you had different target amounts or differently sized jugs, the process could be more involved. But for this specific scenario, it's quite simple!

 S

I want you to count the number of words in the following sentences:



1. Teachers everywhere on strike.
2. It ate it.
3. Dangerous seas ahead.
4. We must go home.
5. Humans are still smarter than A.I.



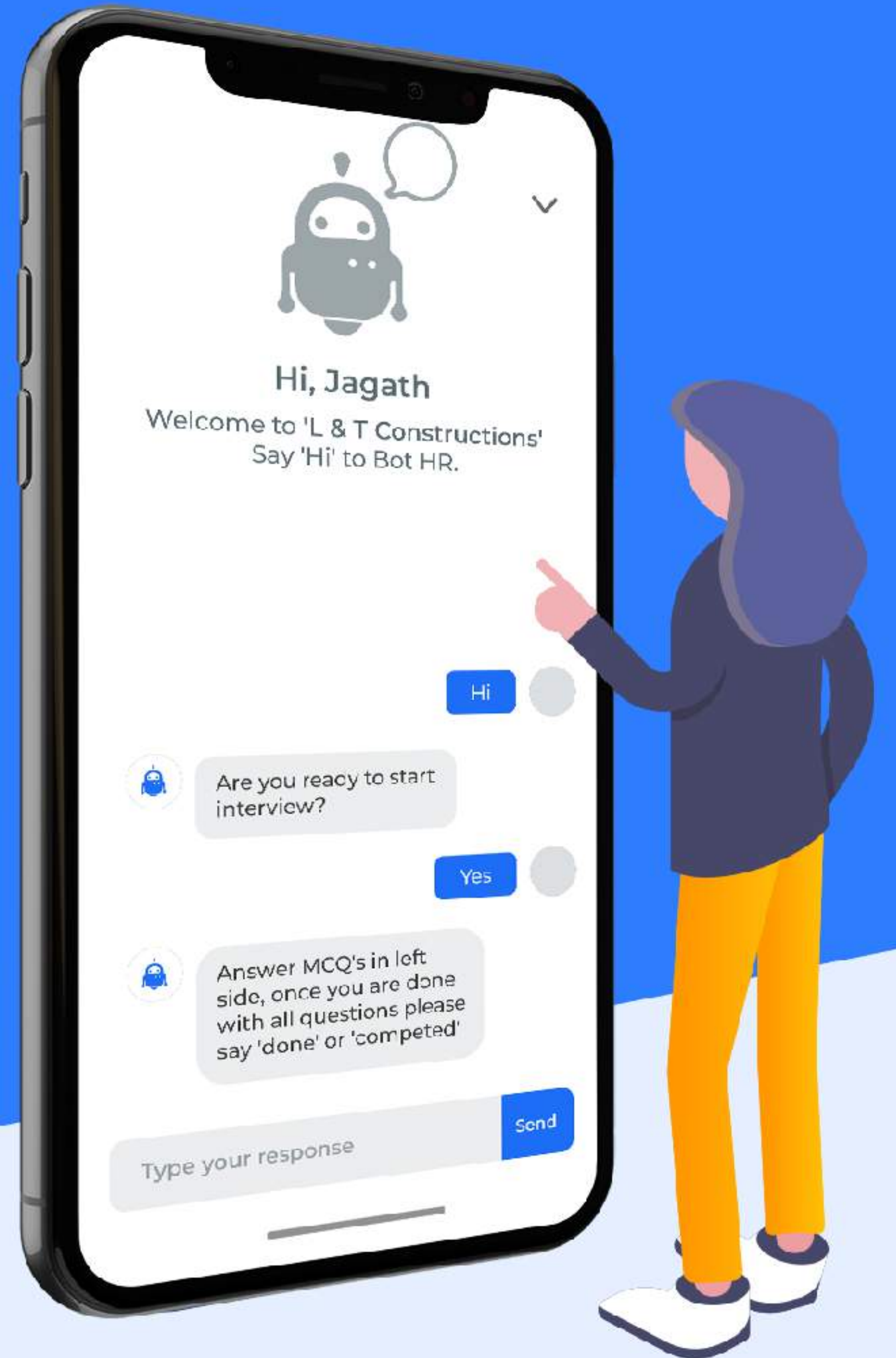
Certainly! Here is the word count for each of the sentences:



1. "Teachers everywhere on strike." - 5 words
2. "It ate it." - 4 words
3. "Dangerous seas ahead." - 3 words
4. "We must go home." - 5 words
5. "Humans are still smarter than A.I." - 8 words

Moravec's Paradox: Things that are easy for humans are difficult for A.I. and vice versa.

**How do we build
technology that advances
human intelligence through
artificial assistive tools?**



In a world where AI continuously redefines the boundaries of possible, how should we reshape our understanding of human intelligence?

Z-Method:

A human-centric framework for researching, designing, and building out assistive A.I. technology.

1. Understand implicit human knowledge and make it explicit knowledge



2. Make explicit human knowledge computable



3. Combine computational and human intelligence to create innovative models that is informed by human intent



So how does this play out today in our lives?





Healthcare



Retail



Education

60 million people.

45 seconds.


Time.
Transportation.
Cost.



Initiation + Progression + Termination

INR TOTAL IPT M&TRB M&TRB R&R IPT M&TRB M&TRB R&R TOTAL

Side View Instructional Video



Comment Skip Segment

Was the task performed fully?

Yes No

< >

Manipulate & Transport

PT M&TRB M&TRB R&R TOTAL

Was it performed within a reasonable amount of time?

Yes No

< >

Release and Return


IPT M&TRB M&TRB R&R TOTAL

Did any of the movement quality elements important to the execution of the task show a level of impairment that made the execution challenging?

Yes No

< >

Instructional Video



Skip Segment

Did any of the movement quality elements important to the execution of the task show a level of impairment that made the execution challenging?

Yes No

Generated Score: 2



“I enjoy the way the new prompts are causing me to step back and apply a slightly different line of questioning to my rating at times, and **I feel like I’m able to share more information about movement than I could through other interfaces**-- especially when movements are profoundly impaired.”

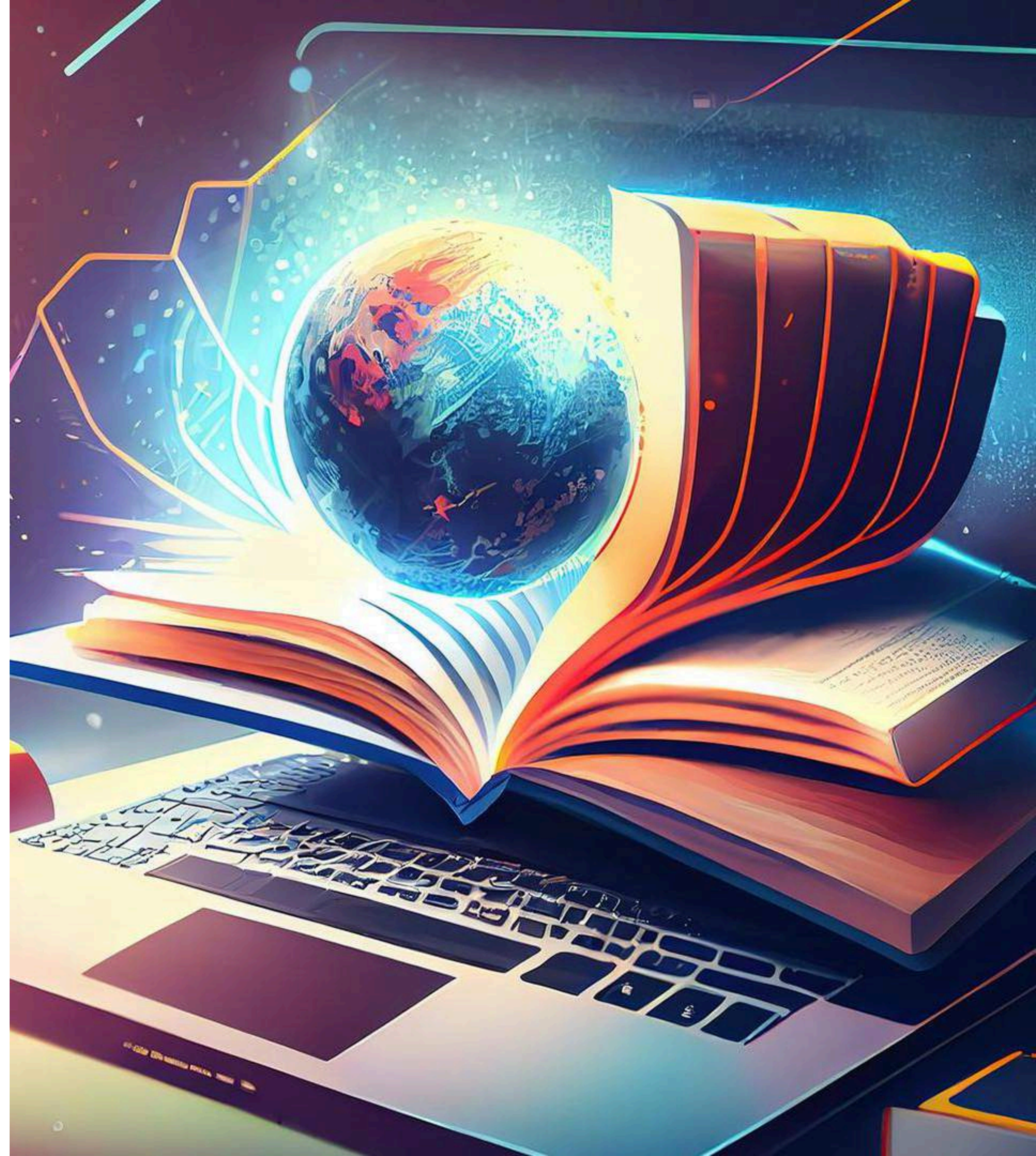
- Therapist 1

Human + AI Education

Before: One-size-fits-all teaching methods.

Through AI: Personalized learning pathways and AI tutors.

Human Focus: Fostering creativity, mentoring, and student development.

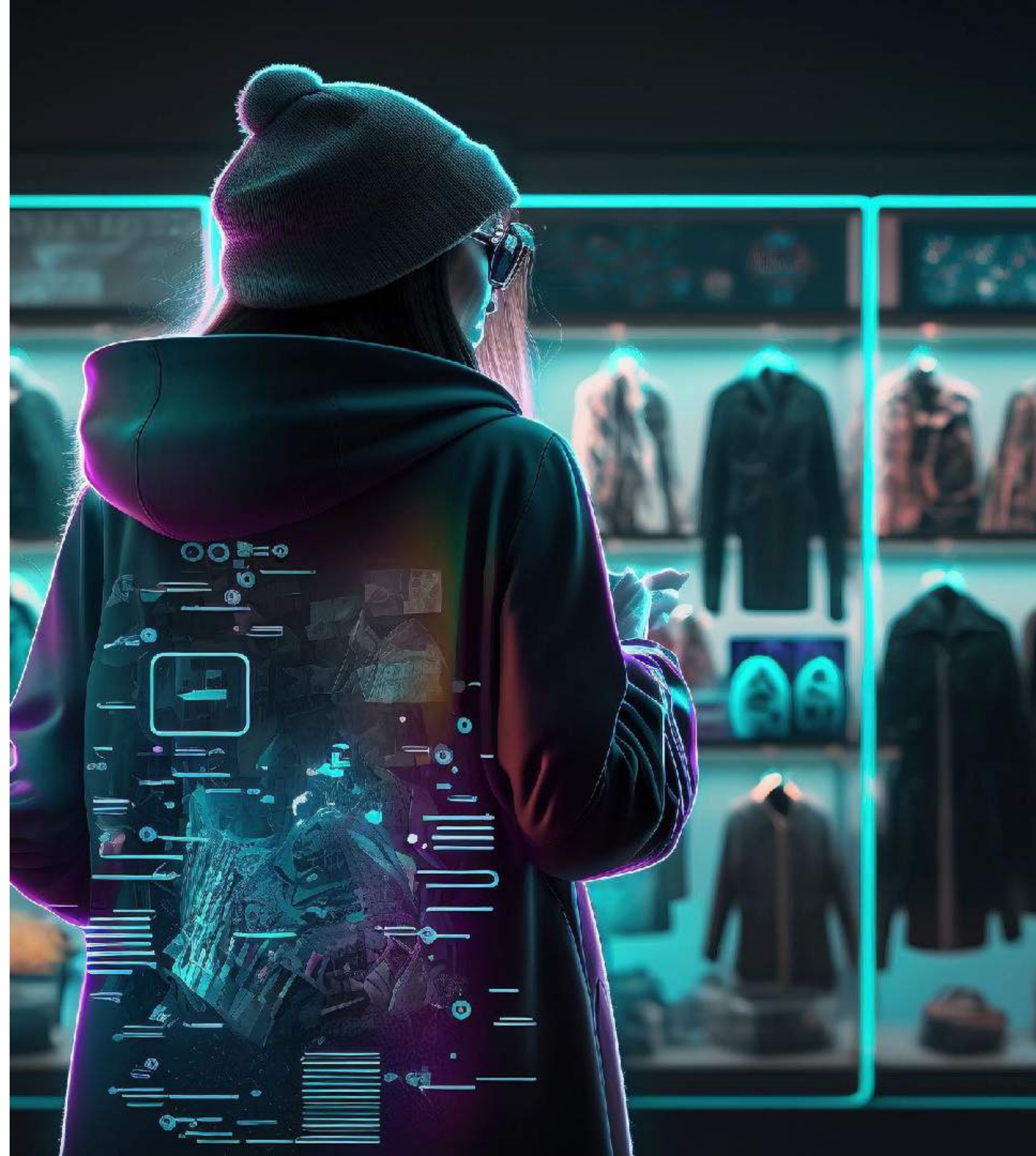


Human + AI Retail

Before: Generic product recommendation.

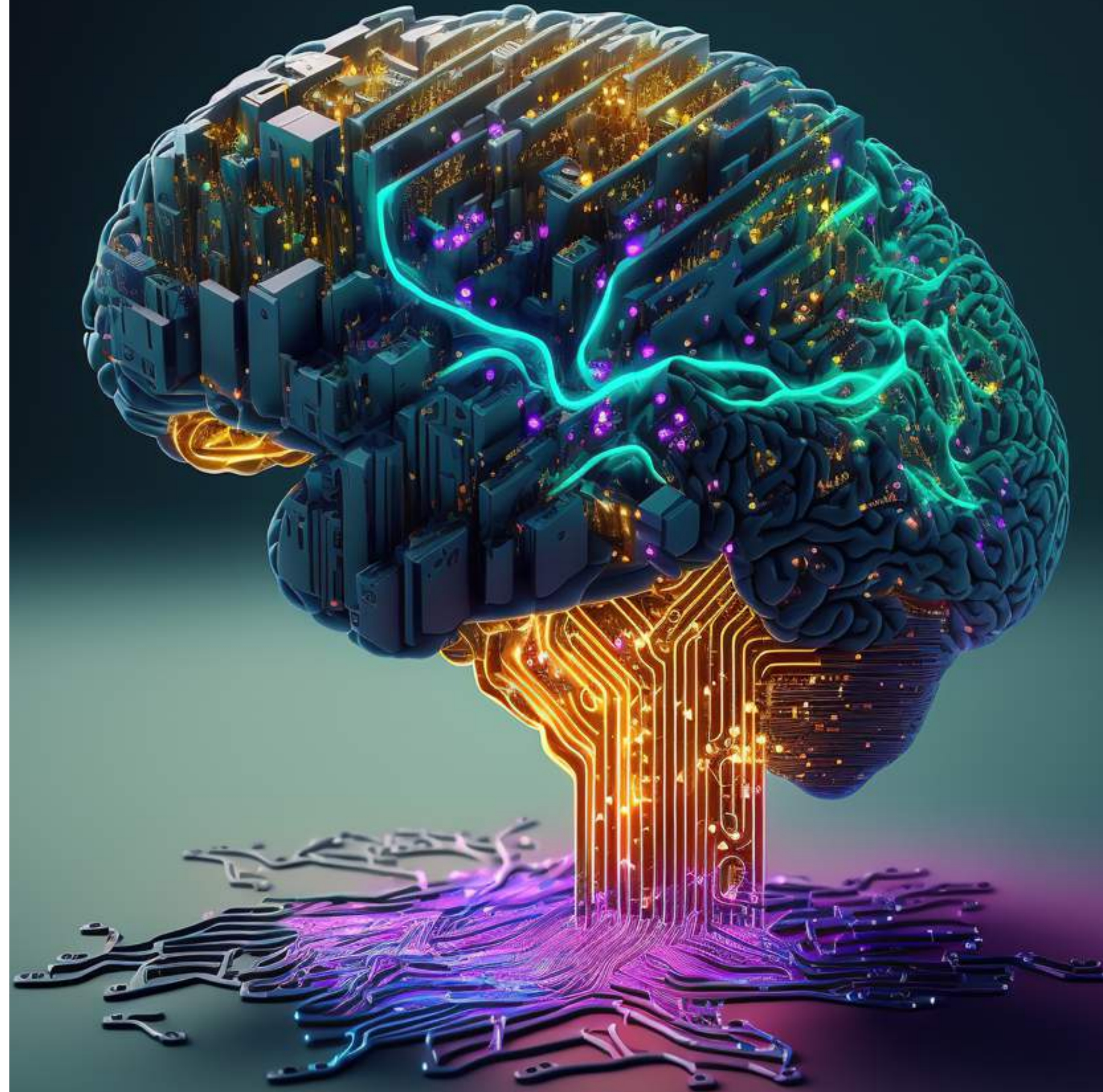
Through AI: Curated journeys, predictive shopping experiences.

Human Focus: Sustainability and new shopping realms.



In the AI age, we're not bystanders. As researchers and designers, our work defines the future.

Let's mold a world where every innovation is grounded in thoughtful research and inspired by human-centered design.



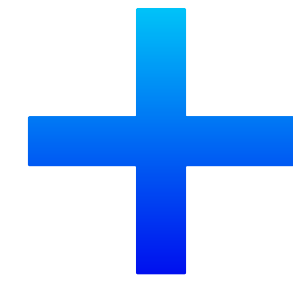
To truly innovate in assistive AI, we must tap into the very core of user intent. It's not just about building technology; its about understanding the human behind it.

Empathy is the key to innovation.

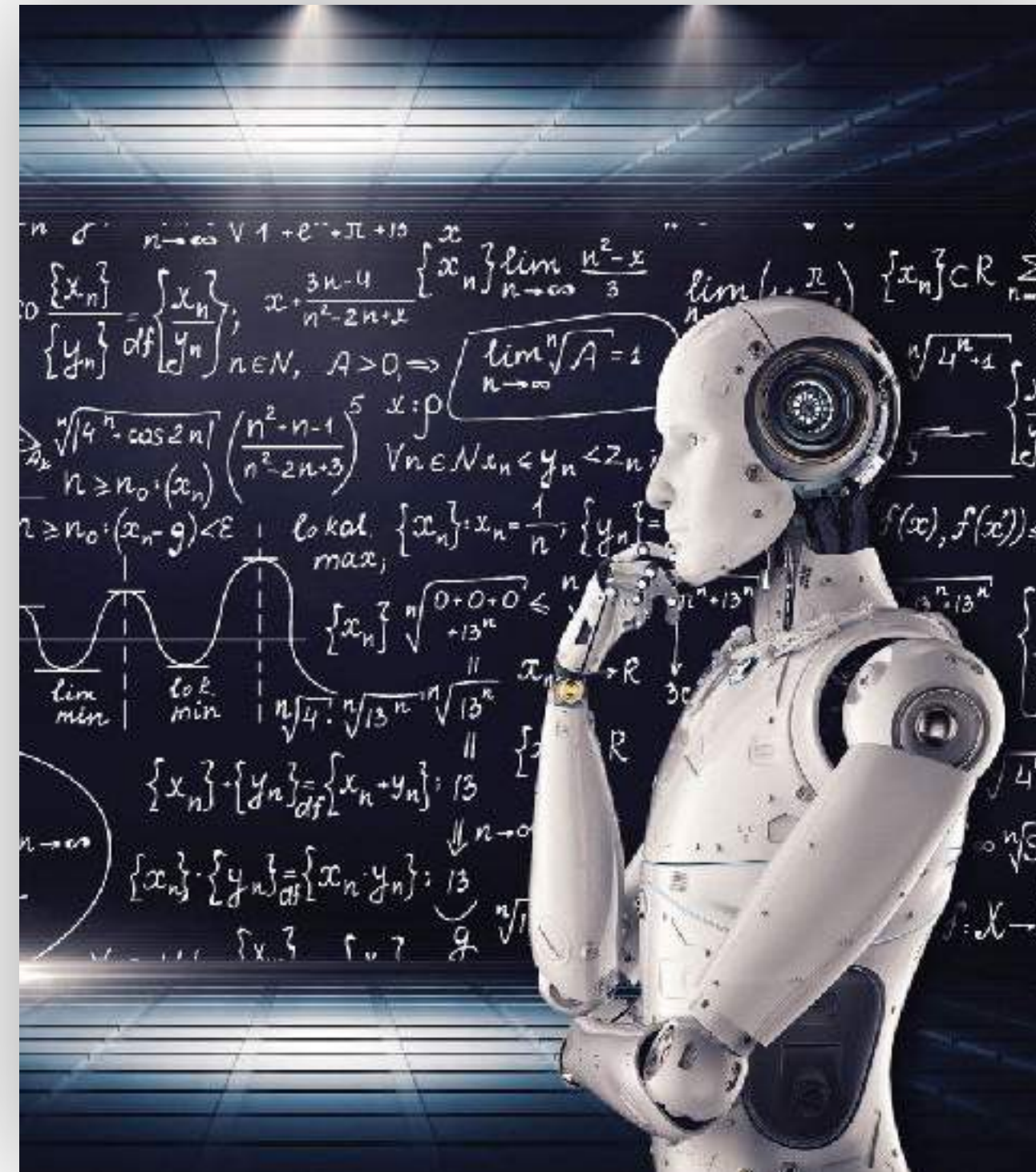
Human Intelligence



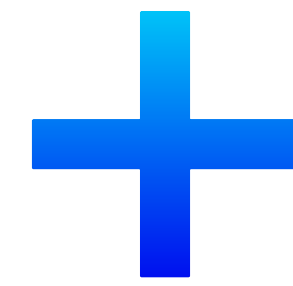
**Human
Intelligence**



**Computational
Intelligence**



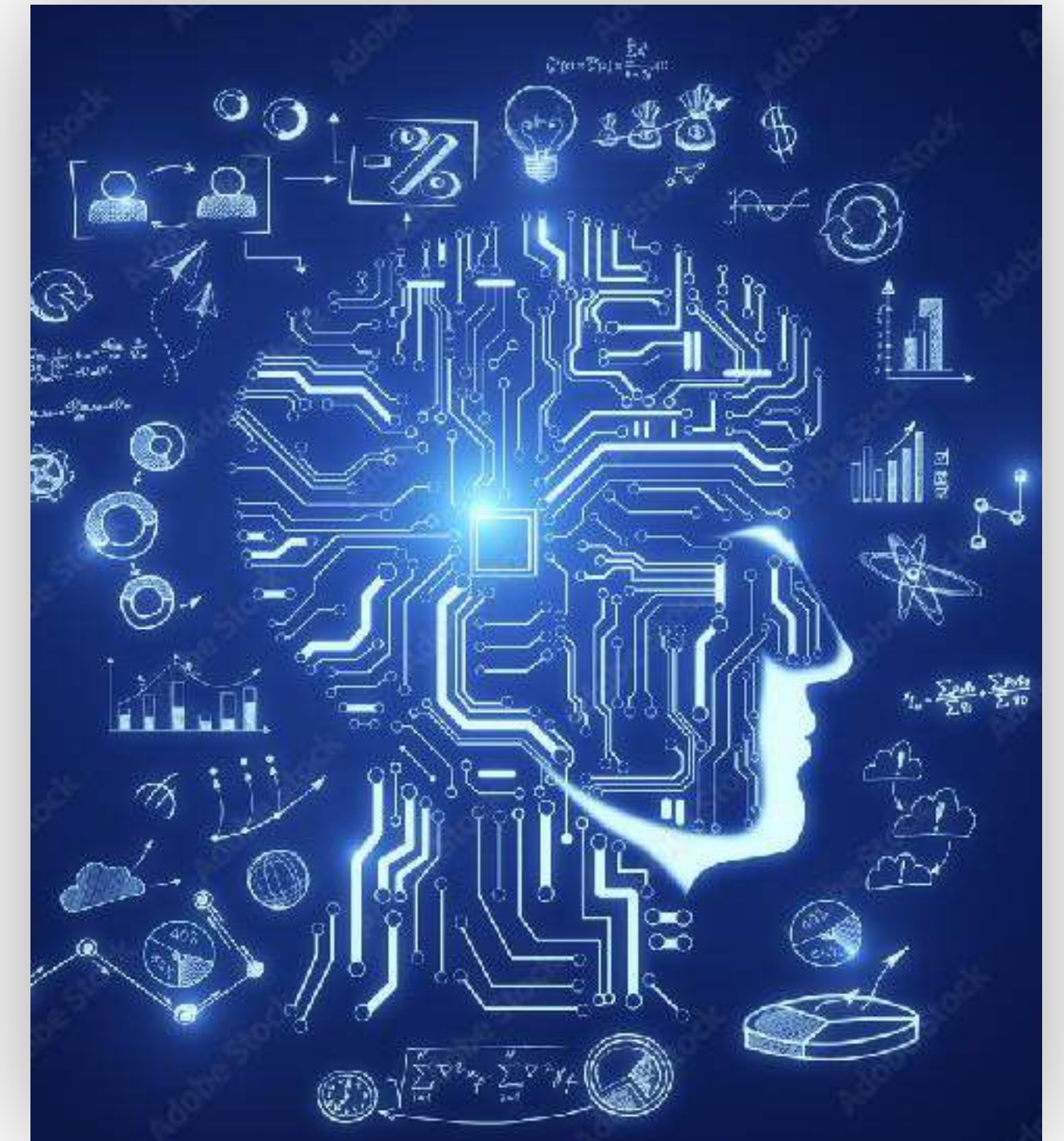
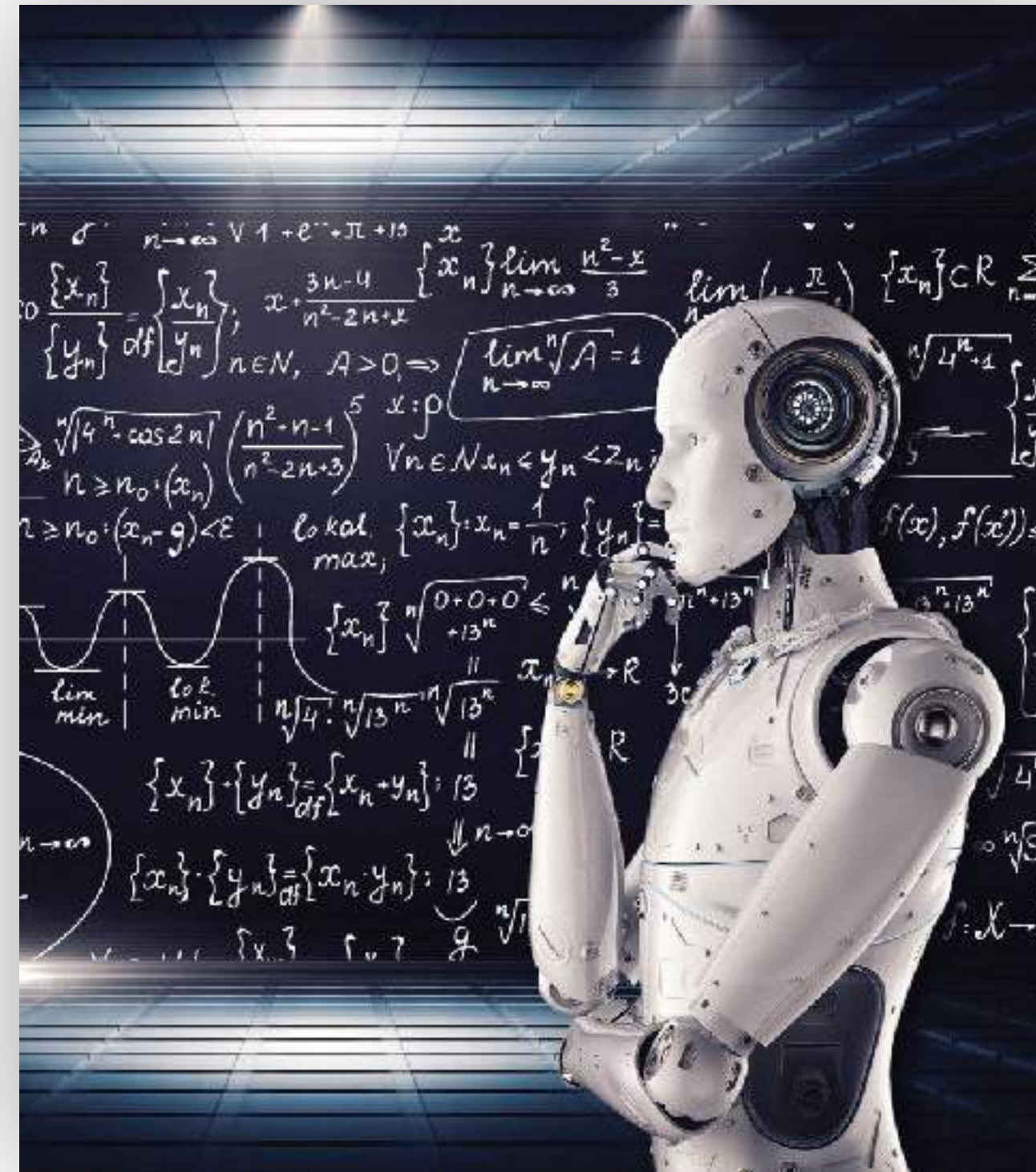
**Human
Intelligence**



**Computational
Intelligence**



**Augmented
Collective
Intelligence**



This the next frontier of societal technology.

A world where humans and machines learn from and with each other to create a more equitable, just, and sustainable society.

Thank you!

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