

“I was there.”

Opening Remarks for The Khoury Teaching Workshop Series Workshop #1: Society of Minds – AI in CS Education

John Rachlin, PhD
Associate Teaching Professor
Khoury College of Computer Sciences
Northeastern University

Hello everyone: faculty, staff, colleagues, friends:

It is my pleasure to welcome you to the first in a series of Khoury Teaching Workshops. Today's workshop is about Artificial Intelligence in Education. I want to start by thanking the Khoury Staff who made today's event entirely possible: Taryn, Dannie, and Heather. I also want to thank the workshop steering committee for their human intelligence and guidance: Lindsay, Laney, Stephen, and Beth Hawthorn.

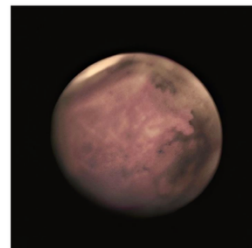
I flew in from Flagstaff Arizona home of the famed Lowell Observatory which was founded by Percival Lowell in 1894. Reports by the Italian astronomer Giovanni Schiaparelli of “*canali*” (Italian for *channels*) were mistranslated into English to suggest artificial canals. Excited for the possibility of intelligent life on Mars, Lowell set out to observe these canals for himself. So, he purchased the best telescope money could buy: A 24” refractor designed and built by Alvan Clark & Sons of Cambridgeport, MA for an agreed-to price of \$20,000. He traveled by train from Boston to Flagstaff with the precision glass lens cradled securely upon his lap. And he built his observatory on a hill, at 7000 feet, overlooking the tiny mill town. Lowell then proceeded



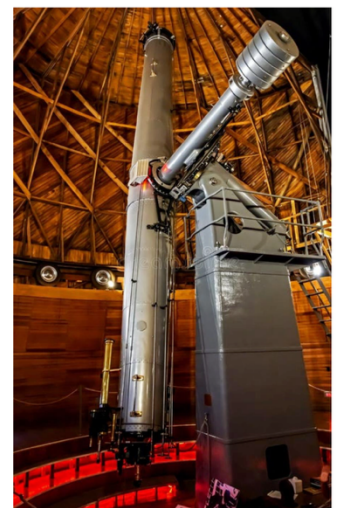
N Northeastern University
Khoury College of Computer Sciences



Percival Lowell's map of Mars



Mars photographed through the Clark Telescope
Imaging Team: Dylan Short, Trish Lucas, Ryan Mayberry,
and John Rachlin, Feb 11, 2025



The 24" Alvan Clark Refractor Telescope

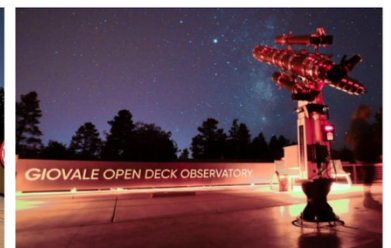
2



Lowell Discovery Telescope
4.3m Mirror. 36-megapixel CCD
Happy Jack, AZ



Professor John
Freezing his ass off for the kids
Lowell Observatory
Flagstaff, AZ
December 2024



"Astronomy is for Everyone"

to *hallucinate* a vast network of canals, imagining an advanced but dying civilization, struggling with climate change, and desperate to transport water from Mars' polar ice caps to the desert equatorial regions. In the process he crafted some beautiful maps and globes and even wrote a book about his findings. Today, no doubt, we will have more to say about the propensity for both humans and machines alike to hallucinate.

Incidentally, the Lowell Observatory is still an active research facility. The observatory's other mission is education and public outreach. It's motto is familiar: *Astronomy is for Everyone*. Scientists and Educators across the planet share our values, believe as we do. Percival Lowell was right after all: *We are not alone*.

I organized this workshop because I believe Artificial Intelligence is for Everyone. AI is making Computer Science more inclusive and creating new opportunities for innovation. So now we face an urgent need for faculty, staff, and students across the University to become AI-literate, to be familiar with AI's potential and its current limitations while recognizing that advancements are happening at an accelerating pace. And we must explore ways to weave AI into a reimagined curriculum lest our own beloved courses and teaching practices become dated or even obsolete. And I could think of no better way to forward these goals than to bring together, into one space, the smartest people I know.



N
Northeastern University
Henry College of Computer Sciences



The wonder computer of the 1980's.
(Plays great games too!) 5

I was there at the start of the Personal Computer *revolution* when a single Irish Catholic mother of four questioned what her 15-year-old son could possibly need with a \$400 computer. Luckily my older brother intervened and insisted, and the purchase was made. I think we could sense what was coming: Computers were going to be big.

I was there when students at Cornell and other US universities staged protests demanding that the trustees divest in companies doing business in South Africa. With the support of US economic sanctions, the white minority government was forced to relinquish power a few years later and the racist policies of Apartheid were finally torn down.





And I was there in the audience at Johns Hopkins when Archbishop Desmond Tutu, recipient of the Nobel Peace Prize and the Presidential Medal of Freedom, came to America and told everyone that these student protests inspired a nation. He urged on his fellow countrymen to take action: “If these students, these young people, these strangers from America will protest and get arrested for us, then how can we possibly do any less for ourselves?” As one thousand audience members listened in awed silence, I sat up and waived my arm. Tutu paused, looked up at me, and smiled. I now understand that changing the world is a dream, but it is also a *choice*.

I was there in the audience when Deep Blue defeated World Chess Champion Garry Kasparov and we all wondered what this might mean for humanity and, more importantly, for the future of chess. (It turns out that chess is doing just fine.)



I was there for the Internet revolution, the smart phone revolution, and the cloud revolution. And now we are *all* here - and the AI revolution is upon us. And if the accelerating cadence of societal revolutions teaches us anything, it is that we Computer Scientists can have an enormous influence on governments, institutions, and the lives of billions of people across the planet. And this is happening at a time when public trust in higher education is at historic lows, and our values as scientists are under attack. Things must change. But change requires more than a dream. It also requires a choice. I hope we choose well.



Early Computing
(1940s-1970s)

PC Revolution
(1975-1990)

Internet Revolution
(1990 - 2005)

Smartphone Revolution
(2007-2014)

Cloud Revolution
(2006-2020)

AI Revolution
(2012 - Present)

Hello, my name is John Rachlin. When Lowell was building his telescopes in the late 19th century, my great-grandfather Yitzchok, a humble Jewish tailor, was fleeing to Toronto Canada with his wife Ida to escape the persecution of Jews in Eastern Europe. I'm the grandson of a depression-era auto-mechanic from West Hartford CT and the grandson of a cattle dealer from Dublin Ireland whose fortunes rose and fell, but whose primary competitive advantage was that he could send secret encoded messages to the auctioneer - by wiggling his ears. Journey back into the depths of pre-history and we are all South Africans. My childhood heroes were all scientists. My pronouns are he/him/his. I am a scientist. And most of all, thanks to some of you here in this room today, I am a teacher. Let nobody in Washington tell *us* who we are.




Yitzchok and Ida Rachlin and Children
Grandpa John Rachlin in sailor suit
(ca. 1912. Toronto, Canada)




Prussia Street Cattle Market
(ca. 1950. Dublin, Ireland)

I hope you all enjoy today's talks, demos, and our panel discussion. I hope it will provoke and inspire and launch continuing discussions about the role of AI in teaching Computer Science. Thank you all for coming. We must get this right. This is going to be big.



Northeastern University
Khoury College of Computer Sciences

**The Khoury College
Teaching Workshop**



AI in CS Education

Wednesday, March 26, 2025
The Cabral Center at the John D. O'Bryant African American Institute
40 Leon Street, Boston, MA 02115