VERSION 9 - SCROLLABLE STORY DECK - SHK ALUMNI TOWN HALL

AI for Everyone

Everyday AI use while being developed: a personal, practical talk about moving from fear to fluency, and from spectacle to a tool we share with everyone.

SLIDE SEQUENCE - MAIN 20 MINUTES

OPENING STORY

The Room Went Silent

1990. Gordon Research Conference. Neural networks, crystallographers, and one graduate student who did not yet know what he did not know.

SPEAKER NOTE

In 1990, at a Gordon Research Conference, a young graduate student presented neural networks to a room of crystallographers and was met with: "That's no big deal. We knew that decades ago." The room went silent, and Sung-Hou Kim stepped in to rescue the moment.

The story is about humility, not nostalgia: expertise can either humiliate the next generation or help them stand back up.

THE TURN

02

I Started Hearing That Voice in Myself

When modern AI took off, it was easy to say: "We have been doing this for decades." That may be true. It is also the least useful sentence in the room.

Old reflex: defend the field | **Better move: widen the field** | **Best move: teach the tool**

"That's no big deal."

The sentence that closes the door.

"We have more information now."

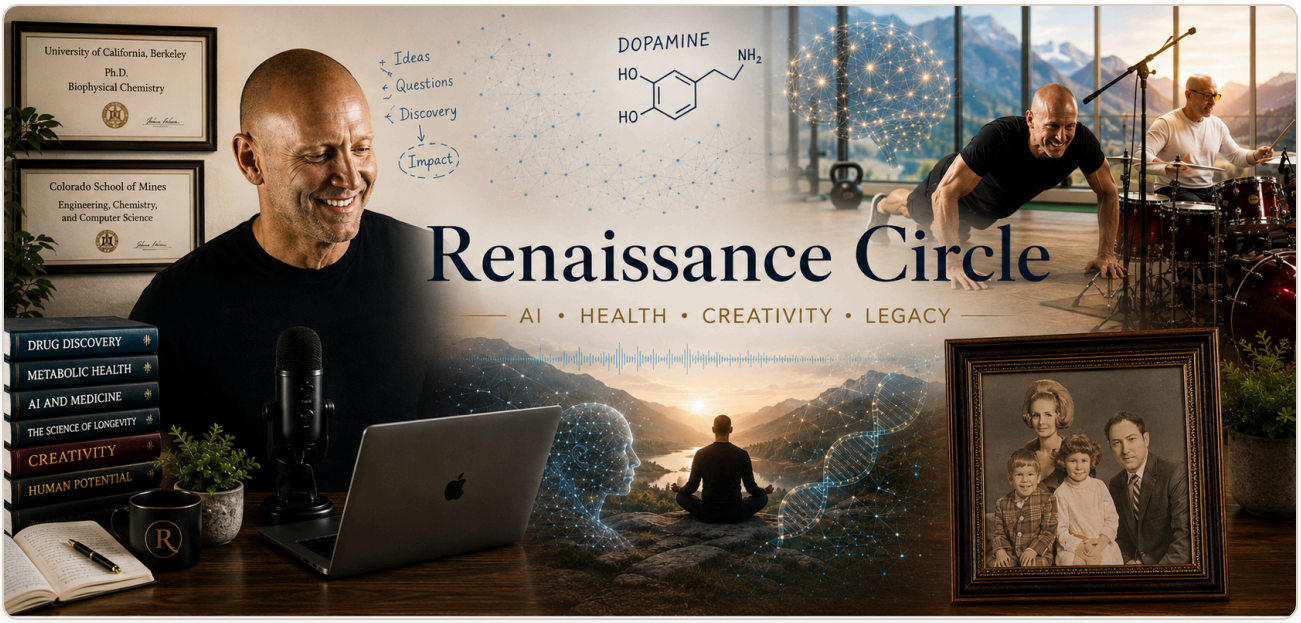
True, and still not an invitation.

"Come join the party."

The sentence that opens it.

Same expertise.

Two very different rooms.



SPEAKER NOTE

The sentence "We've done this for decades" is not wrong. The problem is what it does socially. It closes the door just when the room needs more people: alternative ideas, creative pressure, skeptical pressure, non-scientific perspectives, and people who ask the naive question that experts no longer ask.

WHY THIS ROOM MATTERS

03

Sung-Hou's Lab Was Already an AI Lesson

The lab worked because it was not one lane. It mixed crystallography, biology, chemistry, computation, method-building, and people willing to collide ideas.

Cross
disciplines

Ask
better questions

Build
new lanes

Lab ski trip - the group outside the lab.

Group picnic, Berkeley years.

Lab hike, Tilden.

SPEAKER NOTE

The lesson: AI is most powerful when it helps us cross the lanes we once stayed inside. Sung-Hou's lab worked because it was not one lane — crystallography, biology, chemistry, computation, and people willing to collide ideas.

Berkeley stands as a public-institution ideal: world-class excellence plus a diversity of disciplines and people.

CREDIBILITY, NOT RESUME

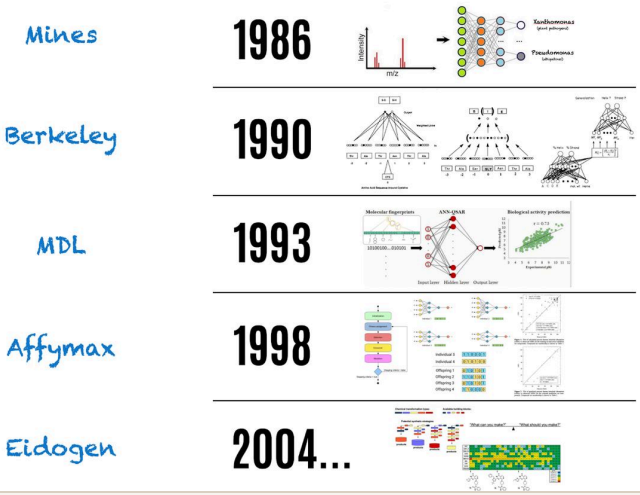
04

A Long AI Arc

The timeline is not the talk. It is context for why the current moment feels different from earlier waves.

- 1980s: neural nets
- 1990: Berkeley
- 1993: MDL
- 1998: Affymax
- 2004+: Eidogen

From "The Birth of AI Steve": old AI roots, current tools, a governed loop.



A neural-network career timeline: Mines (1986) to Eidogen (2004+).

SPEAKER NOTE

The arc in one line: tools were built with AI for decades. What changed is that now AI builds the tools, in English.

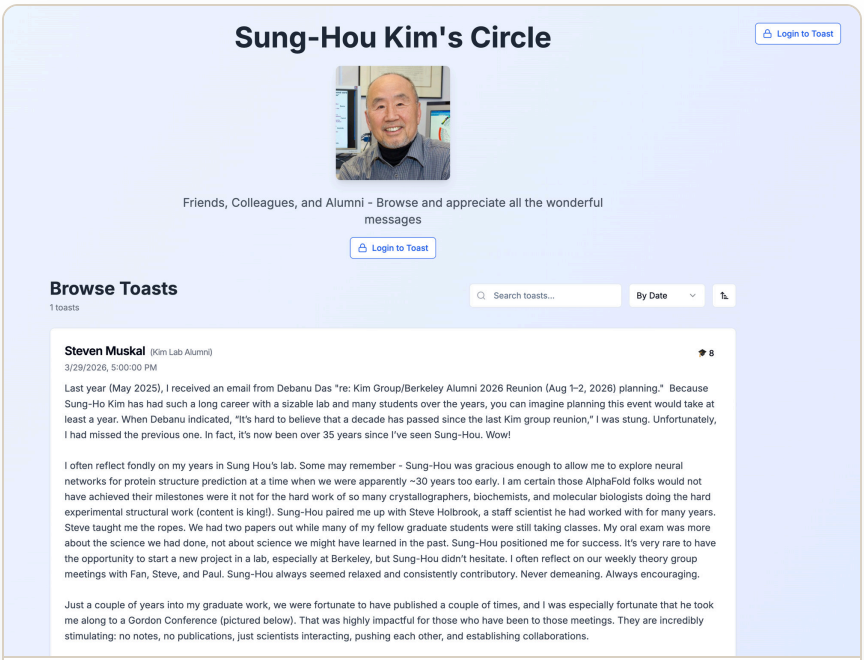
NATURAL-LANGUAGE PROGRAMMING

05

I Say What I Want Built. The System Builds.

Not magic. Not automatic judgment. A new interface: English as the front door into software, data, media, memory, and scientific workflows.

iPhone apps | Android apps | Websites | RAG systems | Medical viewers

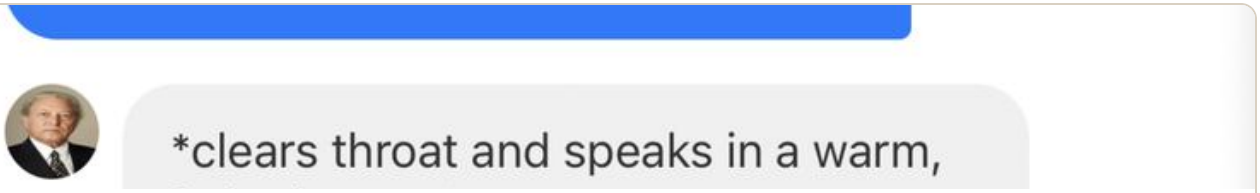


[Sung-Hou Kim's Circle on Toast → toastshk.com]

TOAST OUR FRIEND

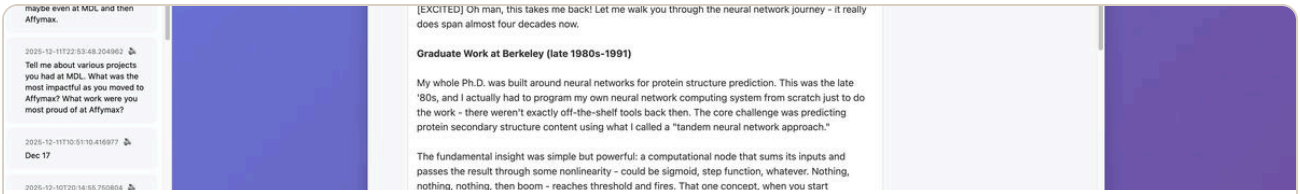
Toast Our Friend

A new way to Celebrate. While the world focuses on self-promotion, we're building a place to honor the people around you. Share stories, create tributes, and celebrate the lives that touch yours.



AI-Dad

Legacy, law, memory, and family voice preserved.



AI-Steve

Personal AI infrastructure grounded in real content.

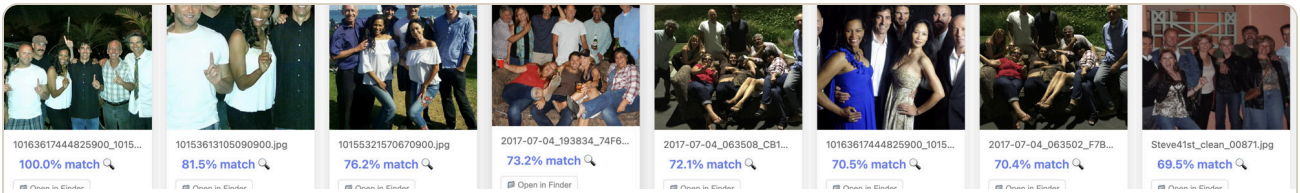
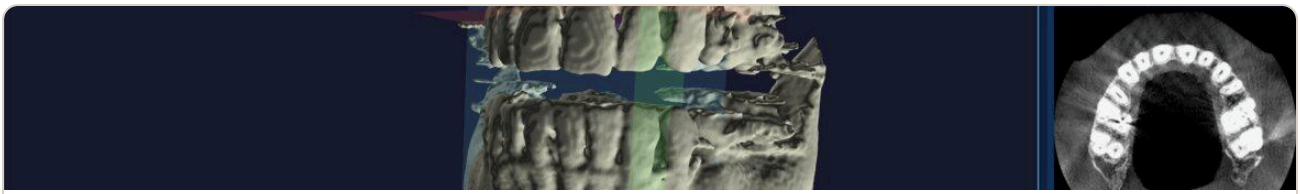


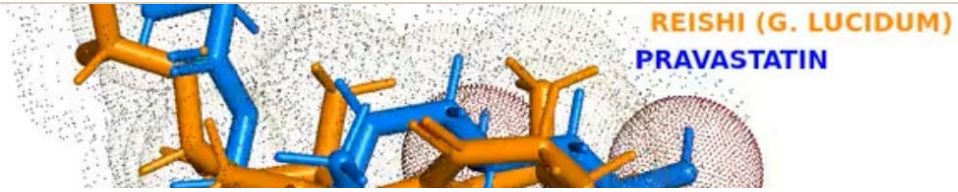
Image Explorer

Search decades of photos by visual similarity; find every shot of a face, place, or moment.



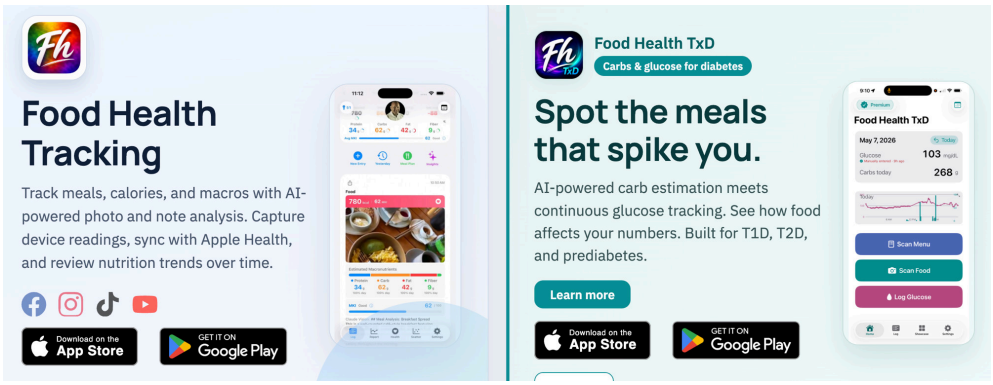
CT Viewer

Patient-facing DICOM exploration in a browser.



Food Is Medicine

Connecting meals, ingredients, and health signals into practical nutrition guidance.



Food Health + Food Health TxD

AI nutrition tracking and a diabetes-focused companion, both shipped from natural-language product direction.

Music Videos

Search songs, artists, genres, players... Search 43 videos

Comfortably Numb - Pink Floyd Cover | Mix-n-Match Sessions

Pink Floyd's 'Comfortably Numb' from a Mix-n-Match Session at ORanch Studio. Originally on The Wall (1979), David Gilmour on vocals. Classic rock, prog rock, 70s rock.

While My Guitar Gently Weeps - Beatles Cover | Mix-n-Match Sessions

George Harrison's 'While My Guitar Gently Weeps' from a Mix-n-Match Session at ORanch Studio. From The Beatles' 1968 White Album. Classic rock, 60s rock.

In the Air Tonight - Phil Collins Cover | Mix-n-Match Sessions

Phil Collins' 'In the Air Tonight' from a Mix-n-Match Session at ORanch Studio. From Face Value (1981), featuring the legendary gated-reverb drum fill. 80s rock, pop rock.

The Way - Fastball Cover | Mix-n-Match Sessions

Fastball's 'The Way' from a Mix-n-Match Session at ORanch Studio. From All the Pain Money Can Buy (1998). Alt rock, 90s rock.

The Letter - Box Tops / Joe Cocker Cover | Mix-n-Match Sessions

'The Letter' from a Mix-n-Match Session at ORanch Studio. Originally by The Box Tops (1967), famously reworked by Joe Cocker (1970). Classic rock, 60s soul.

The Story - Brandi Carlile Cover | Mix-n-Match Sessions

Brandi Carlile's 'The Story' from a Mix-n-Match Session at ORanch Studio, with neighbors joining in. The 2007 folk-rock signature song. Folk rock, Americana.

REFRAME THE FEAR

06

AI Is a Bionic Amplifier

The better question is not "Will this replace me?" It is "Which parts of my work should no longer consume my life?"

Tasks
will be automated

Judgment
still belongs to people

Time
is the scarcest resource

The original bionic promise: amplify the human, do not replace them.

Menial Work

Summaries, first drafts, formatting, routine searches, data cleanup, scheduling, comparison tables.

Human Work

Priorities, ethics, taste, relationships, experimental judgment, courage, knowing when the answer is nonsense.

Old Bottleneck

Compute was not always the limiting factor. Even with Cray and SGI time, content and representation mattered.

Current Bottleneck

Good human content: what we know, what we notice, what we ask, what we care enough to preserve.

SPEAKER NOTE

The bionic arm does not decide what matters; it extends capability. AI extends reach, speed, recall, and iteration, but the human still sets the direction and checks the consequences.

On data-center anxiety: expect surges, overbuilds, and pullbacks, like many venture-backed cycles. None of that changes the deeper point — content and human intention remain central.

PEOPLE ARE STILL THE CENTER

07

Content Is King. Content Is Currency. Content Makes Kings.

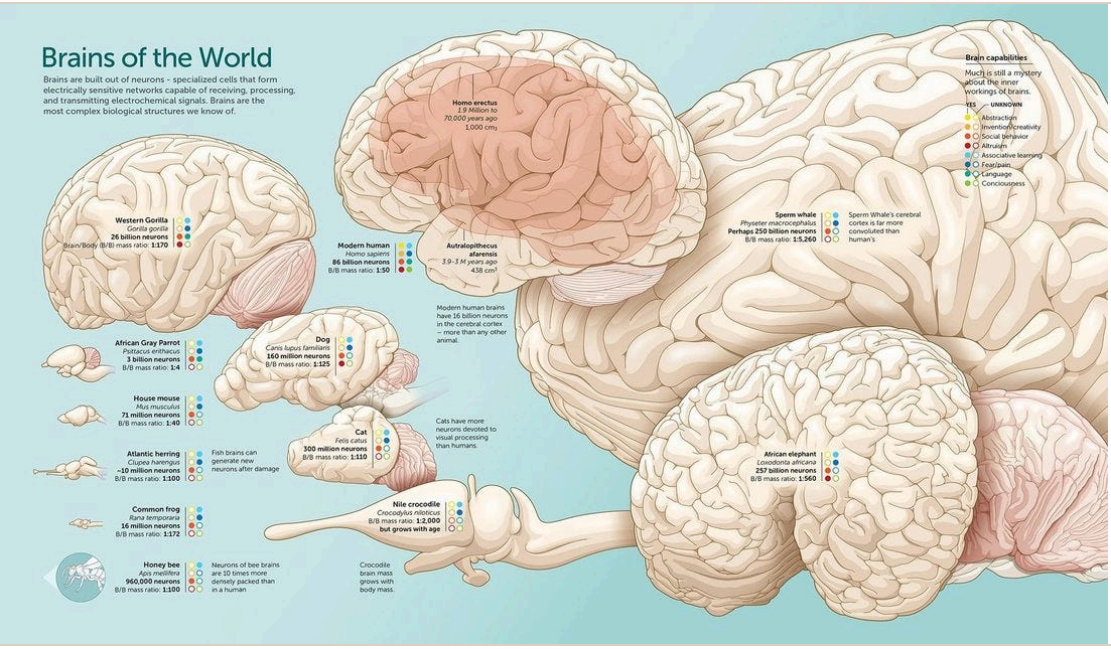
Models are only ever as good as the human content beneath them. A model that memorizes looks brilliant on what it has seen and breaks on what it has not. The whales and elephants carry more neurons; we carry more meaning. Fresh, honest, human content is the scarce resource that keeps the whole system from collapsing in on itself.

It meets people where they are.

Broken English, another language, third-grade phrasing, or millions of lines of code.

It depends on us.

The models learn from human questions, documents, art, experiments, and judgment.



Neurons are cheap; content is dear. Across species, more neurons did not settle who leads. What we know, notice, ask, and preserve is the content that makes kings.

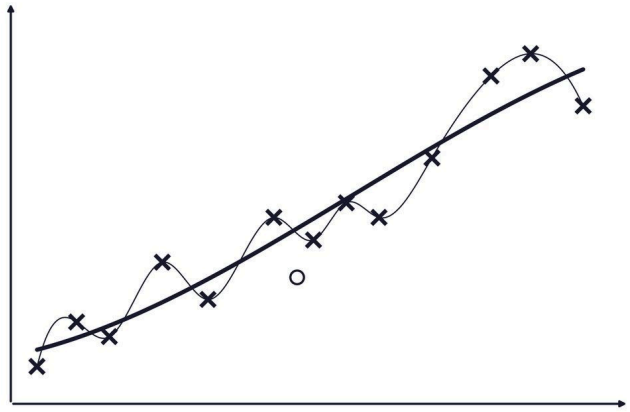


Figure 2.3. Neural network memorization. Data (X's) with a good fit (heavy line) and an overfit (thin line). The overfit performs excellently on the "learning set" (X's), but poorly on a "test set" (open circle).

Steven M. Muskal, "Predicting Features of Protein Structure with Computer Simulated Neural Networks," Ph.D. thesis, University of California, Berkeley, 1991.

Memorization is not understanding. Steve's own 1991 Berkeley thesis figure: an overfit nails the training X's and fails the held-out point. Garbage in, garbage out, now at the scale of the entire internet.

SPEAKER NOTE

AI is not only for people who code. Its most powerful current interface is language, and language belongs to everyone. The curve (from a 1991 Berkeley thesis) shows why memorization without fresh data fails; the brains panel reminds us that raw capacity is not the moat — human content is. Content does not just reign supreme; content makes kings.

WHERE I SEE THE FUTURE · THE RISE OF THE MACHINE

08

The Machine Is Learning to Move

For a few years the AI story has been about language - what machines can *say*. The next act is about what they can *do*. Intelligence is escaping the data center and stepping into the room with us: joints, actuators, sensors, machines that balance, grasp, and walk. America bet on the mind; China bet on the hands. Neither wins alone - a mind with no hands is a brilliant prisoner, hands with no mind are just machinery. And the lesson from Content Makes Kings still holds: more sensors and richer data win. The frontier after intelligence is lightness - mass, energy, and the biology of moving with grace.

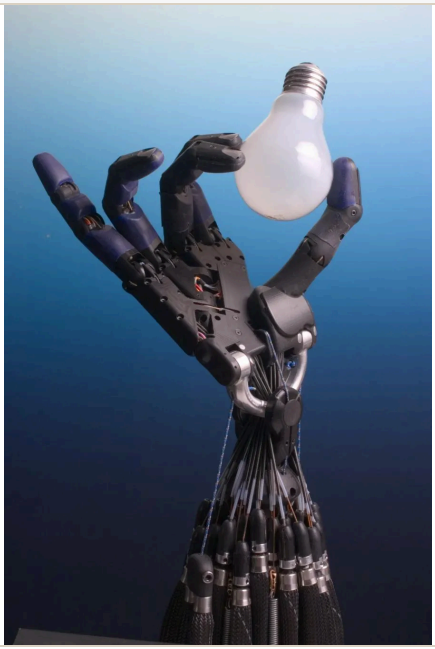
Dexterity built the brain.

A remarkable share of our cortex serves the hand. Controlling it in real time is one of the hardest problems nature ever solved - and still the hardest thing to build in a robot.

Freed, not just displaced.

Automating back-breaking, health-eroding labor can be a human act, not only an economic one - if we build the vocational on-ramps and safety nets deliberately. A choice, not a fate.

The hardest problem in sports. A 100-mph pitch leaves no time to react. A great hitter *predicts*, pre-commits the body, then fuses that forecast to a violent, exquisitely timed swing. Prediction plus execution as one act - exactly what embodied AI has to crack.



Mind meets hands. The same coupling of cognition and dexterity that made us human is now being assembled in silicon, steel, and carbon fiber. Handled wisely, with guardrails, it does not replace what we are - it extends what we can build.

SPEAKER NOTE

The forward-looking beat. The baseball is prediction fused to dexterous execution — the human game; the robot hand and light bulb is the machine that carries the idea. Boston

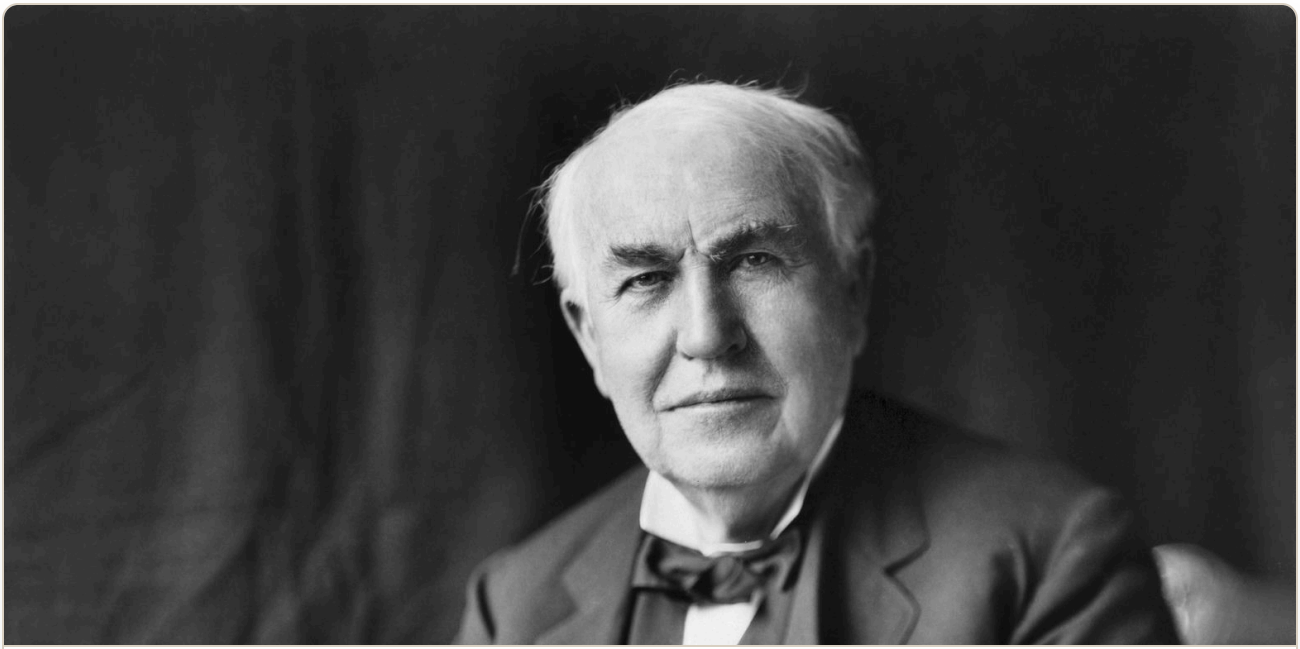
Dynamics, Amazon's warehouses, and Waymo are already moving, and the quiet frontier is lightness — mass, energy, biomimicry. The machine is rising; the question, as with every fire we have lit, is what we choose to do with it.

THE FIRE THIS TIME

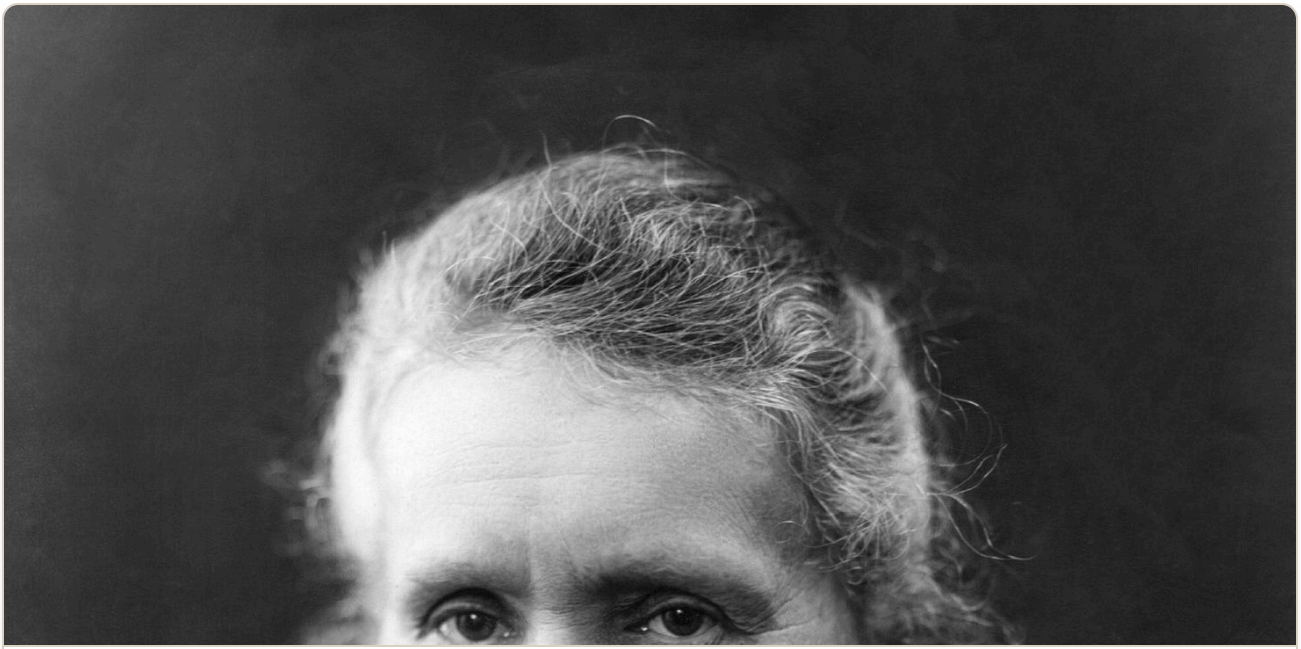
09

The Answer to Fire Was Not to Extinguish It

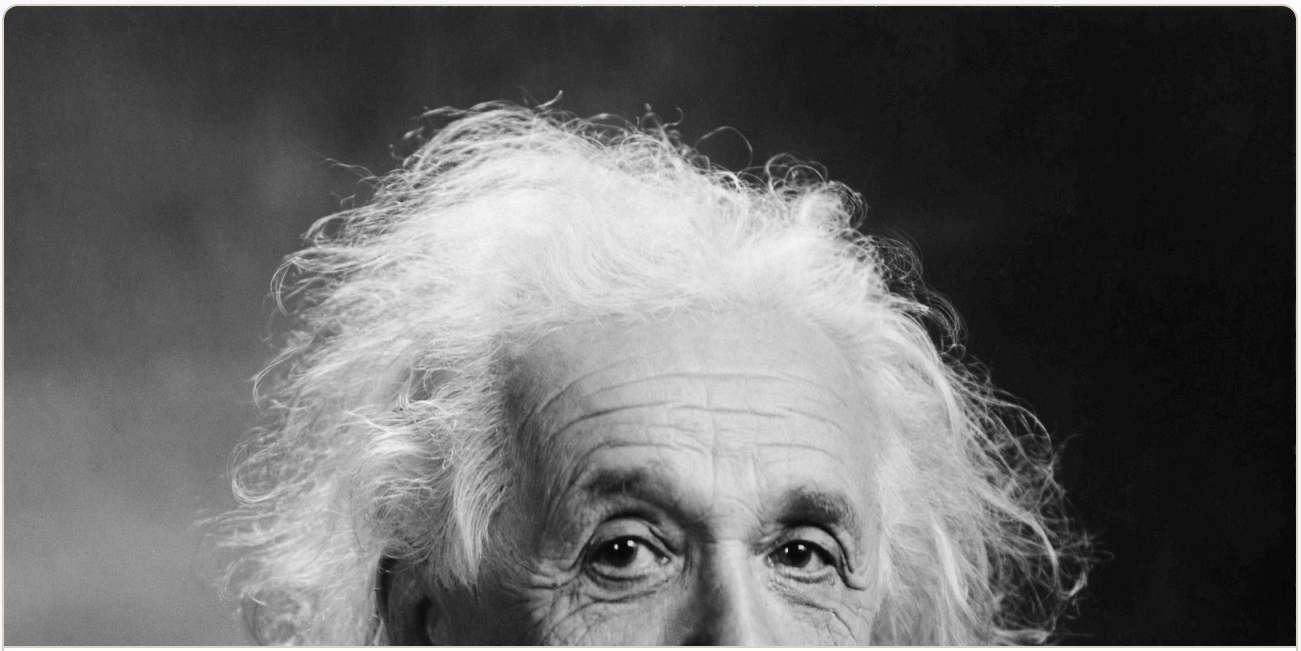
The answer was to learn how to carry it, contain it, teach it, and build hearths around it. Berkeley is extraordinary, but the next brilliant person may not have Berkeley access - AI can help more people find serious lanes to swim in.



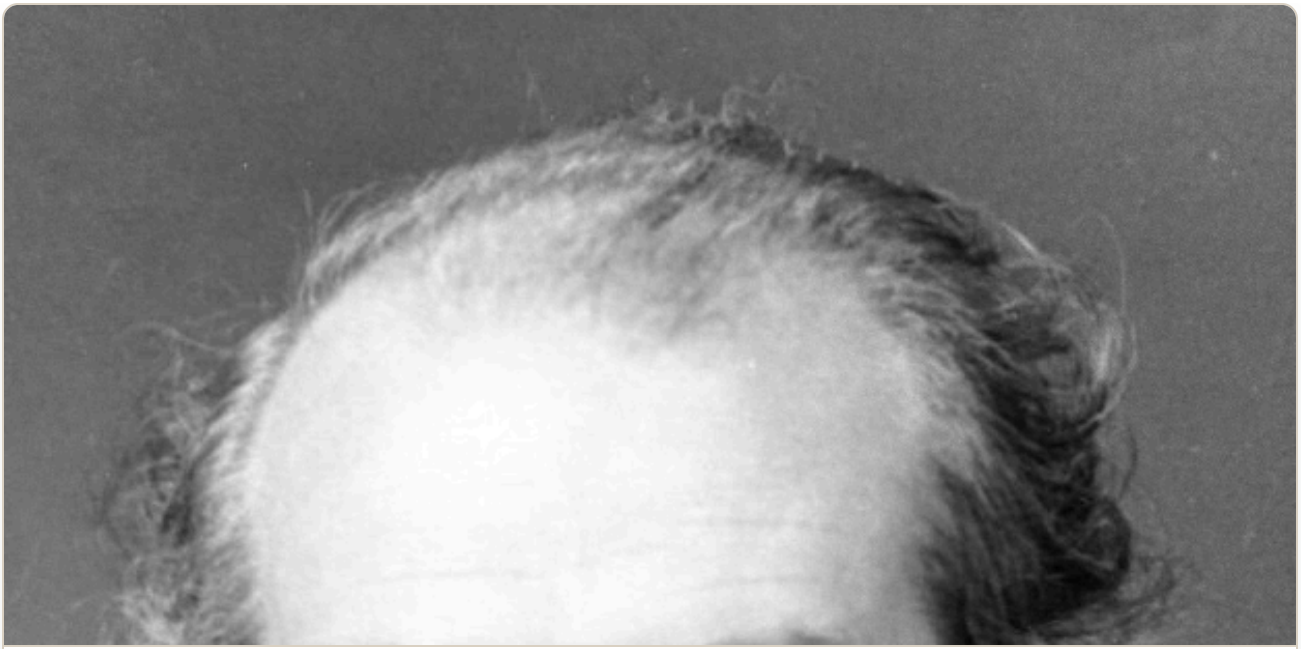
Thomas Edison
Invention



Marie Curie
Chemistry, physics



Albert Einstein
Physics



Linus Pauling
Structure, chemistry

SPEAKER NOTE

Fire illuminated, warmed, cooked, protected, and transformed human life — and it also burned people and destroyed cities. Serious tools require serious culture: not naive optimism, but responsibility plus access.

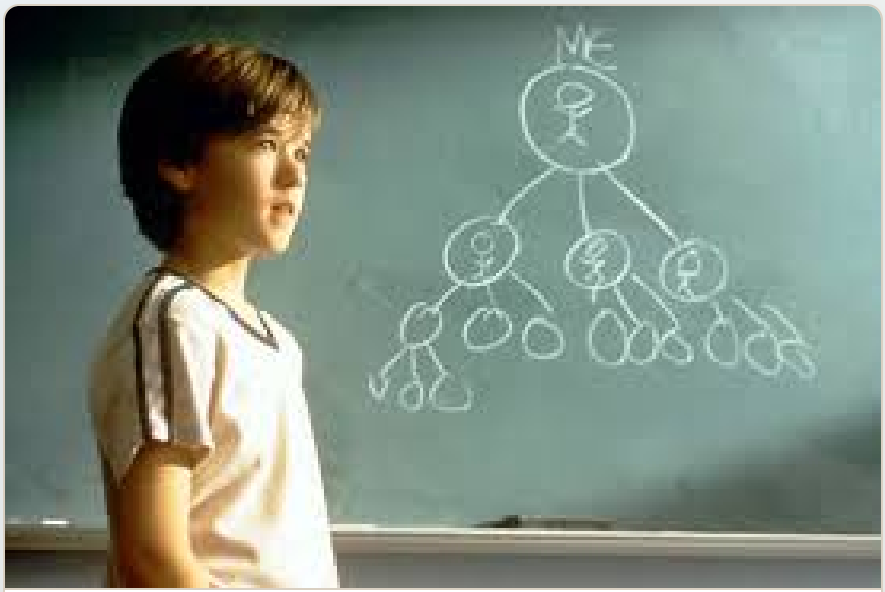
Berkeley is extraordinary, but the next brilliant person may not have Berkeley access. AI can help more people find serious lanes to swim in.

CLOSE WHERE WE BEGAN

10

AI for Everyone

For those of us who have been in the AI game for years, and those who just arrived, the work is the same: pass the tool, not the intimidation.



Pay it forward: one person helps three, and it multiplies.

Use It

Pick one task this week that wastes time and let AI help you move through it.

Share It

Sit with one person who is curious or fearful. Let them drive. Translate, do not lecture.

Preserve It

Capture stories, expertise, images, emails, notes, and methods. Human content is the fuel.

SPEAKER NOTE

The callback: at the Gordon Conference, Sung-Hou modeled how an expert can rescue a beginner instead of crushing him — the AI moment in miniature. We can be the voice in the audience, or the person who helps the next person keep going.

The fire is already lit. What we do with it is still up to us.

Viewing Tips

Click any image to expand it to full resolution (Esc or click the backdrop to close). To zoom the whole page, press **Ctrl** (Windows/Linux) or **Cmd** (Mac) with **+ / – / 0**, or hold **Ctrl/Cmd** and scroll.

OPTIONAL APPENDIX - IF TIME OPENS UP

Discussion Prompts

- For Sung-Hou: What feels most familiar and most different about this AI wave compared with structural genomics and earlier computational turns?
- For scientists: What task would you most like to compress so you could spend more time on real scientific judgment?
- For younger attendees: If you had a tireless tutor and builder, what would you aim it at first?
- For everyone: What is one fear you want the room to take seriously, not dismiss?

Material to Cut First

- Cut detailed project demos if time is tight. Use the project grid as visual evidence only.
- Cut population and job-market examples unless the audience pushes on job displacement.

- Cut technical architecture unless a scientist asks for it. The main talk is about human adoption.
- Keep the opening story and closing callback. Those are the spine.

Local Assets and Source Links

Images are inlined for portability. Click any image to expand it to full resolution; press Escape or click the backdrop to close.

- Content Makes Kings - source of the memorization curve and brains imagery (slide 7)
- The Fire This Time - fire and democratization framing (slide 9)
- stevenmuskal.com/projects.html - project thumbnails and descriptions
- AI-Steve Code Directives - natural-language programming workflow
- The Rise of the Machine - embodied AI, the mind/hands split, and lightness (slide 8)