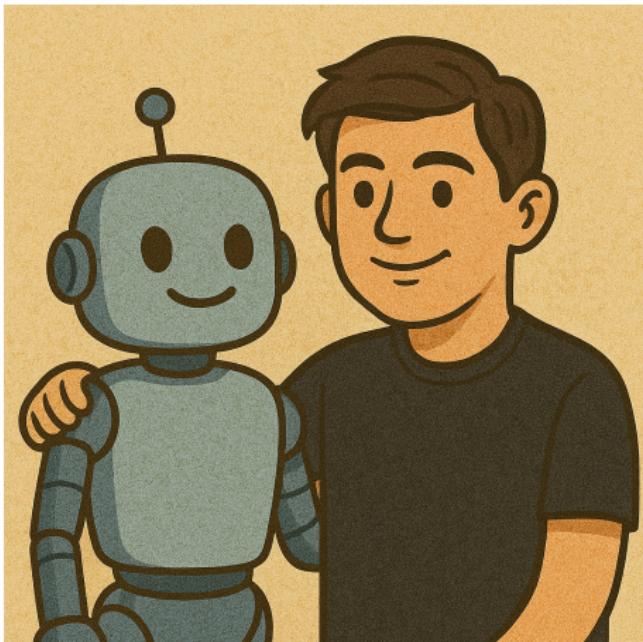


The Impact of AI on STEM Careers

Casey Stella

April 2025

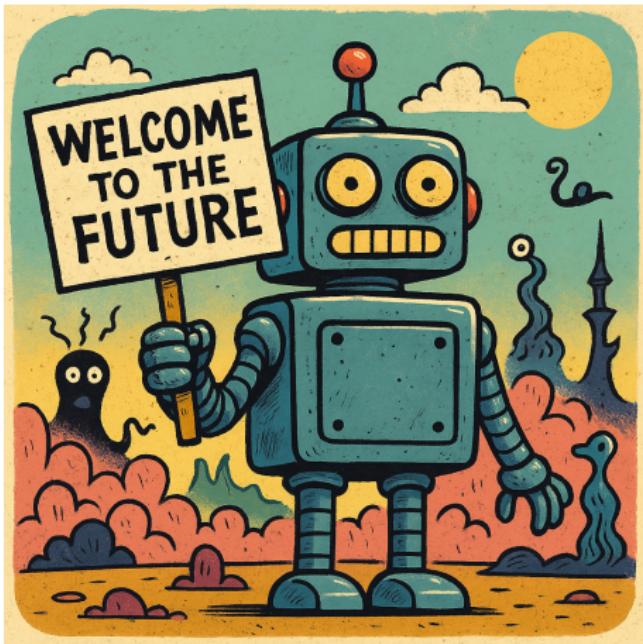
Hi! I'm Casey



A little bit about myself...

- I'm a Machine Learning Engineer for Netflix's Core Recommendations Team
- Before that, I was the Tech Lead for Machine Learning Infra at Stripe
- I've been in tech for 20 years focused on Big Data and Machine Learning
- Before all of that I got a MS in Math at Texas A&M

Welcome to the Future (It's Weird Here)



- The AI hype train has no brakes
- Everyone's confused, excited, or terrified
- Let's talk it through, soberly

Pearl-Clutching: A Timeline



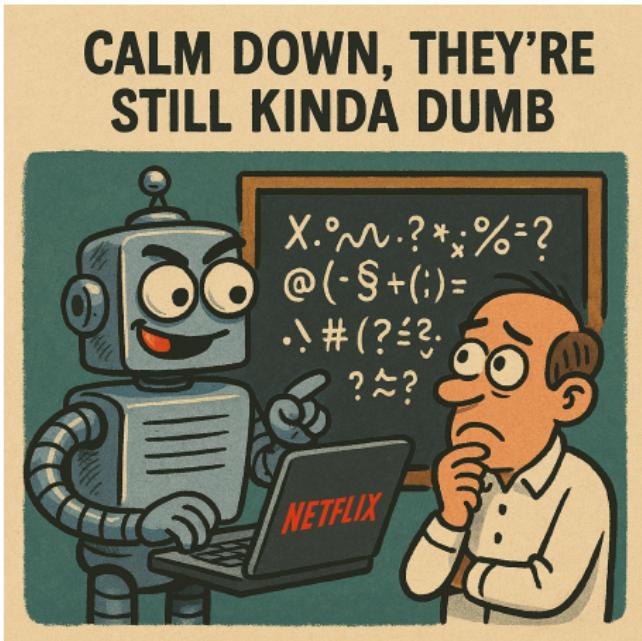
- **2022 (Nov):** ChatGPT 3.5 launches, sparks mainstream awareness
- **2023 (Mid):** LLMs enter coding, writing, and STEM workflows
- **2023 (Late):** AI hallucinations become widely known, trust questioned
- **2024:** Enterprises adopt AI copilots, regulatory talk begins
- **2025:** We're here—still sorting it out.

Your Toaster Writes Code Now (Sometimes)



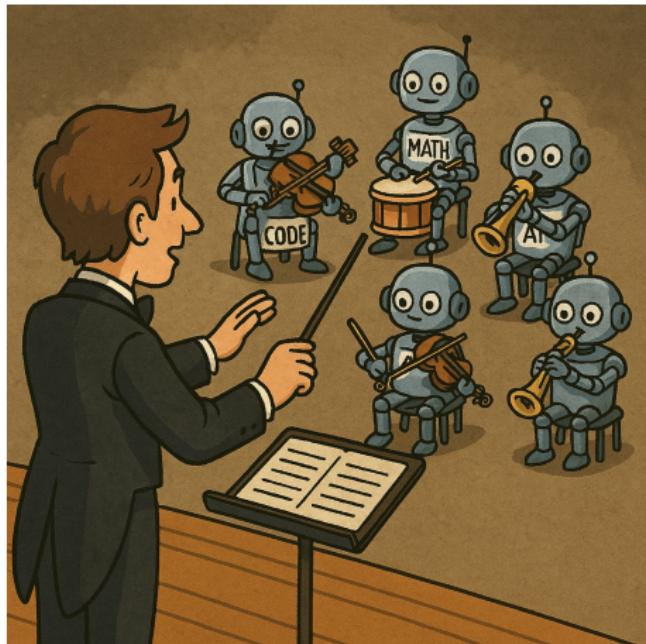
- Great at text generation and autocomplete
- Surprising coding assistance
- Mediocre reasoning, shaky math
- **Scaling laws:** performance increases predictably with more data, compute, and parameters
- *This trend will likely continue—more capable models are coming*

Calm Down, They're Still Kinda Dumb



- No true understanding or reasoning
 - Hallucinate facts confidently
 - Fail under ambiguity
 - *Are these limits theoretical, or just architectural? We're still figuring that out.*

From Coders to Conductors



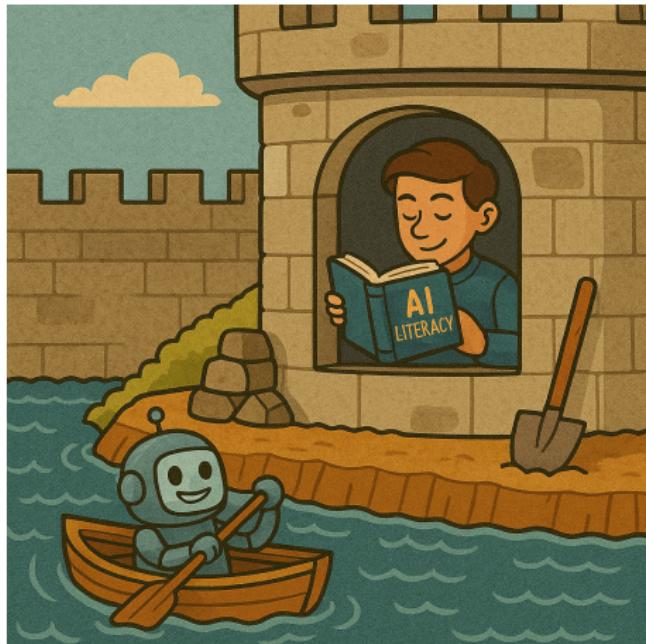
- Right now, think less of a replacement and more of a productivity tool
- Humans need to be in the loop and to learn to be skeptical
- Bottom Line: STEM is evolving, not vanishing
- **Cautionary Tale:** The Malpractice Machine

Work Smarter with the Machines



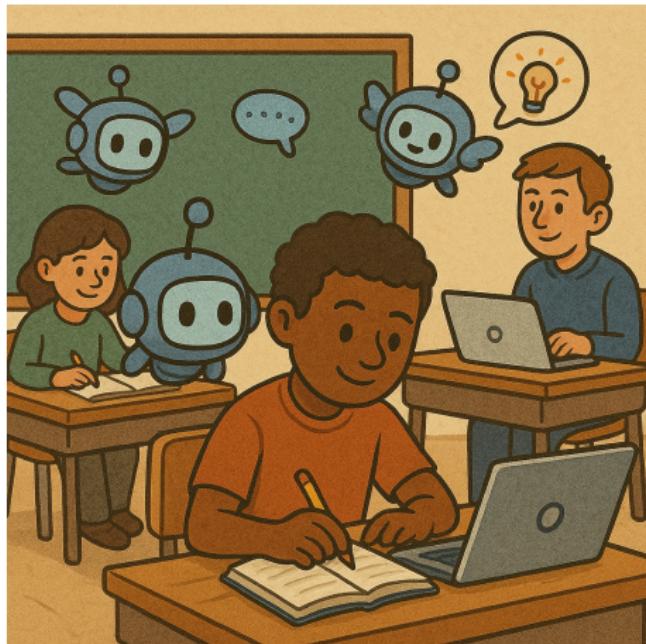
- AI isn't a rival—it's a power tool. Learn to wield it.
- Let AI handle repetitive, low-leverage tasks
- Focus your energy on problem framing, judgment, and impact
- Build intuition around when AI is helpful—and when it's dangerous
- **Cautionary Tale:** Tariff Calculation

Build a Moat (and Maybe a Paddle)



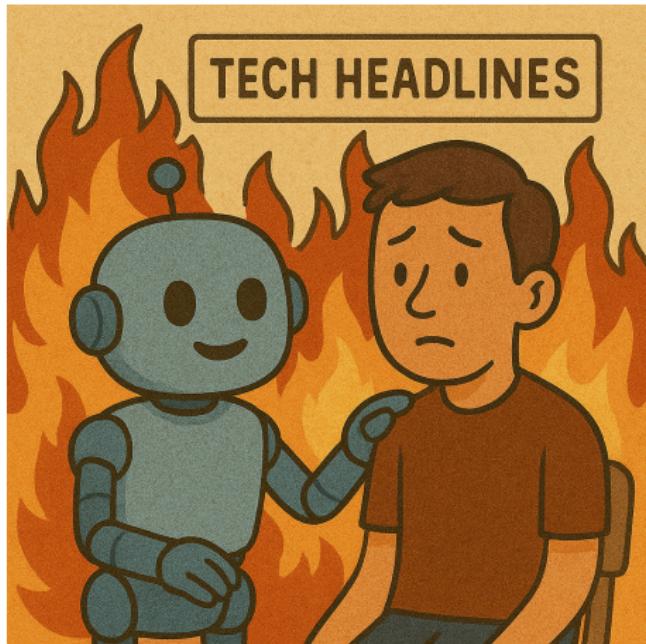
- Emphasize flexibility and learning
- Build domain-specific depth
- Strategically focus your career away from areas that AI commoditizes *or is likely to commoditize*
- Tools are evolving very fast: be the willow, not the oak

STEM in the Age of Copilots



- Teach tool fluency, not tool worship
 - We have experience with this with calculators
- Encourage systems thinking
- Encourage skepticism
- Clearly communicating with AI will hone clear communication with humans
- Ethics + AI = required curriculum

We're Gonna Be Fine (Probably)



- Change is scary but not new
- AI is an amplifier, not a replacement
- Let's evolve with it

Keep in Touch (Humans Welcome)

Thank you!

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