Using Artificial Intelligence Well:

*Thinking **Critically***
*About Technology **Predictions***
*In Periods of **Uncertainty***

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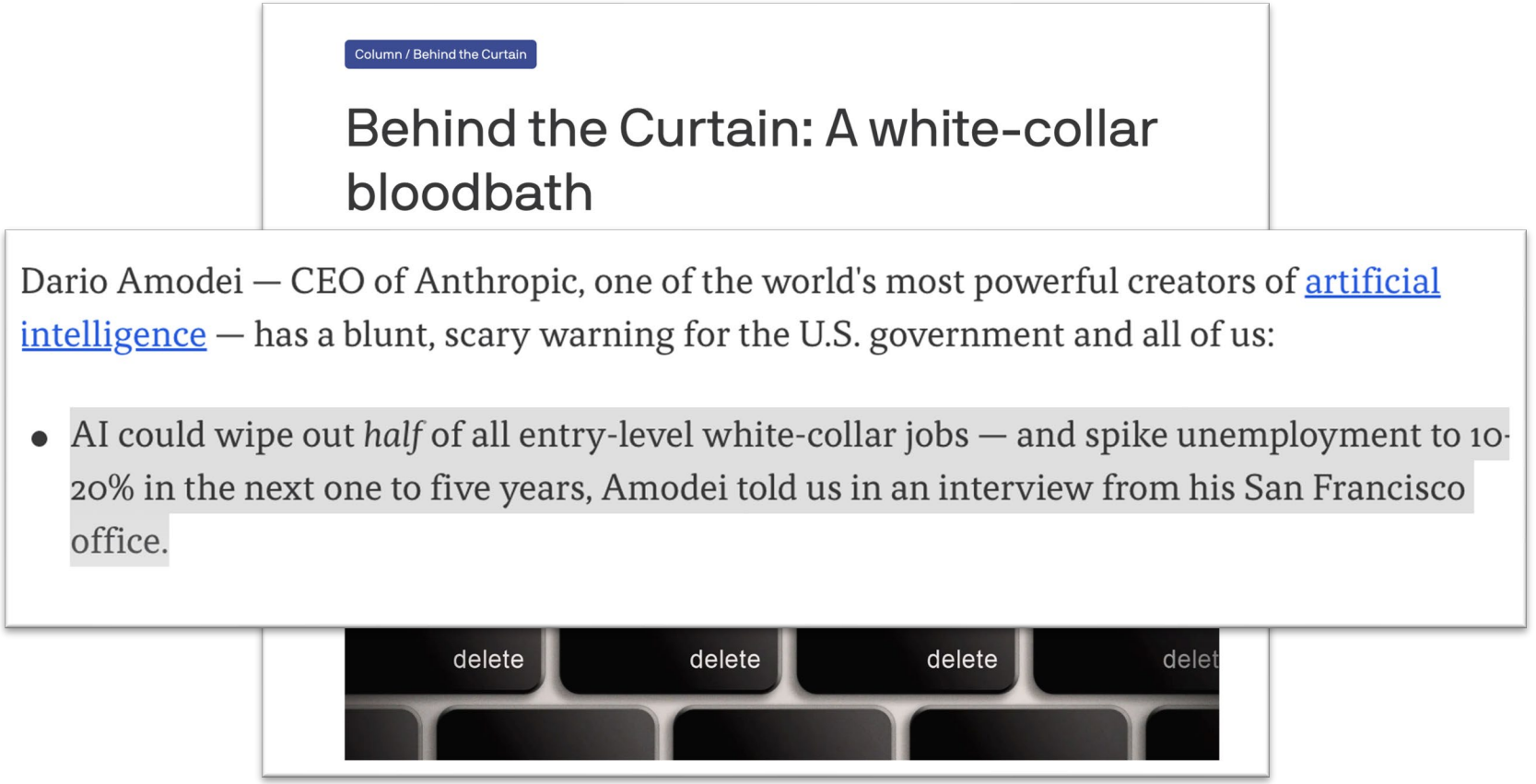
Outline

- Anxiety about AI, Job Predictions, and Uncertainty
- Why detailed predictions about technology and labor tend to be **unreliable**
  - Our intuitive predictions about technology and labor are often too simple
  - The underlying reality is too complex to predict in detail
- Frameworks from Labor Economics
  - Some high level trends are roughly predictable
  - But **details** about *how* and *when* AI will affect labor and society **are not reliable**
    - For example: What jobs? How much impact? Positive or negative impact? On What Time Scale?
- Application to AI and the Legal Profession

Confident Predictions about AI

- Every week confident headlines and predictions about AI replacing jobs



Anxiety about AI and Jobs

- Every week confident headlines and predictions about AI replacing jobs

SUCCESS· THE FUTURE OF WORK

100 million jobs could be wiped out from the U.S. alone thanks to AI, warns Senator Bernie Sanders

BY **PRESTON FORE**
SUCCESS REPORTER

October 7, 2025 at 11:13 AM EDT

How Does a Researcher Approach This

- How should we approach such predictions?
  - Should we take them at face value as likely outcomes?
  - Research shows us that we should be ***skeptical***
    - No matter **how confidently they are stated**
    - Or **who is making them**
      - Politicians, business leaders, technologists, Nobel prize winners
- Why?
  - Because detailed predictions about technology tend to be **very unreliable**

- On the one hand, we are not promising you certainty about the future
  - On the other hand, we are giving you a hopeful takeaway
    - A toolset for evaluating predictions critically and skeptically
    - Which can reduce anxiety caused by extreme, but confident claims about AI and jobs

Looking at historical evidence

- **As researchers**
  - The best we can do is look back at past predictions
    - And compare them to what actually happened
  - Assess how reliable they were and what went right or wrong
  - And assess whether the level of confidence was warranted
    - Or if the confidence of the predictions did not match the uncertainty

Looking at historical evidence

- **What the research shows**
  - Technology does change society and jobs at a broad level over time
  - Detailed predictions about the impact of technology on labor force tend to be wrong
    - Predictions about: what specific occupations will decline or improve, when it will happen, etc;
  - Due to the **inherent complexities and unpredictability of**
    - Emerging technology and the labor markets
  - Rather, such predictions represent one of many possible outcomes
    - Some positive, some neutral, some negative
  - Moreover, even seemingly intuitive and obvious predictions are often wrong
    - In some cases, the exact *opposite* of our intuitions turns out to be true

Sources: Bessen (2016), Autor (2015), Arntz, Gregory, and Zierahn (2021), Gimbel (2025)

Case Study: Radiologists and AI

- **Geoffrey Hinton**
  - Father of Modern Artificial Intelligence
  - Won the Nobel Prize

- **In 2016, Hinton suggested that Radiologists would be replaced by AI**

  ”People should stop training radiologists now, because within 5 years deep learning will do better.” **- Hinton (2016)**

Hinton’s reasoning: Radiologists examine medical imaging,

AI will be better than humans at examining medical imaging

Therefore: AI will **replace** radiologists

- **But, In 2025, the opposite employment result has happened**

  True, AI is better than radiologists at spotting many conditions
  - But, demand for Radiologists has *increased*
    - Pay is increasing, and there are actually shortages of radiologists

What went wrong? Task/Job Confusion

- **Problem 1: Confusing a *single job's task* for the *entire* job**
  - Economists think of jobs not as a single unit, but of a bundle of individual tasks
    - Acemoglu and Autor (2011)
  - Radiologist (some tasks)
    - Patient Interaction & Diagnosis – reviewing histories, selecting imaging tests, explaining results, and forming diagnostic impressions, etc.
    - Image Interpretation – detecting, characterizing, and comparing findings on scans, etc.
    - Reporting & Communication – drafting reports, flagging urgent results, and consulting with physicians or patients, etc..
- Predictions often have an overly simple mental model of a job as a few obvious tasks
  - "Bank tellers will be replaced by ATMs, because their job is to hand out cash."
    - The reality is that bank tellers' employment ***increased*** after ATMs
      - In part, because bank tellers do many other valuable tasks than the ones that happen to come to mind
- Similar problem with simple predictive mental model of radiologists
  - Radiologists are more than simple image readers; they diagnose and help patients through illness

Substitutes and Complements

Business

Former Google CEO predicts AI will replace most programmers in a year

Apr 22, 2025 at 03:44 PM CDT

Kalé Carey (Anchor)

- And increasing their productivity
- In many skilled labor areas, technology like AI can *complement* not substitute increasing
  - Productivity and demand
- Unclear until we gather more demand

Timing and Diffusion

- **Problem 3: The Timing of Technology is Hard to Predict**
  - Just because a technology like AI is starting to emerge and be used
    - Does not necessarily mean that significant labor or job impact is imminent
  - Technologies often take decades to have substantial labor market effects
    - Sometimes negative, sometimes positive, sometimes neutral
  - Electronic legal search Westlaw/Lexis was invented in the 1970's
    - Was not commonplace until around 2000, 30 years later
    - It often takes years or decades to affect overall supply/ demand or labor workflows

There are many other economic factors

- **Problem 4: Many economic factors besides technology affect jobs**
  - Technology like AI is just one component affecting jobs, tasks, and the labor force
    - Many other factors such as
      - Global supply and demand
      - Business cycles and trade
      - Changing tastes, preferences, and needs
      - Changing demographics
      - Politics and laws
    - Can influence the relative supply or demand for a job
  - The future emergence and direction of technologies like AI is hard to predict
    - Additionally, economic factors interact and are themselves hard to predict
  - The combined unpredictability makes confident predictions ***extremely unreliable***

Economic Applied to Law: Uncertainty

- **The future of AI's impact on law is just too complex to predict with any accuracy**
- **It could**
  - *It could complement some tasks leading to increased productivity and demand*
    - *It could substitute for others*
  - *Create new jobs and tasks in law that did not previously exist*
  - *It could create or reduce demand in areas adjacent to AI*
  - *The full impact could take a few decades or just a few years*
  - *AI itself is likely to change over time*

Conclusion

- **High level, general trends no more than 3–5 years out are reasonable**
  - E.g. AI or computing will likely continue to improve year over year, and be broadly diffused
  - Some jobs will change, and some workers will likely be impacted negatively and positively
- But, **detailed** predictions about what those trends will mean for jobs or society
  - ***Are highly unreliable*** *and should be viewed with skepticism*
  - **The reason is that:**
    - The mental models used to make these predictions are often overly simplisitic
      - And may ignore complex positive and negative labor market dynamics
    - More importantly,
      - The underlying reality about emerging technology and economics is just *too complex*
- Rather, we should see such predictions as one possible
  - Of many possible future trajectories
  - And realize that details about the future are simply too hard to get right
- Best approach is to gather evidence as to changes as they arise
  - And plan for a range of possibilities, some positive, some negative, flexibily and humbly