Artificial Intelligence: A Survey for Policymakers

School of International & Public Affairs
Columbia University

January 21, 2025 - Lecture 1

Neal Parikh · nparikh.org · neal@nparikh.org

Today

- About me
- What this course is about
- Course logistics & advice
- About you

What is this course about?

This course focuses on fundamentals and conceptual tools, not the particulars of any one Al policy or specific debates currently going on (because these are constantly changing).

Trump revokes Biden executive order on addressing Al risks

WASHINGTON, Jan 20 (Reuters) - U.S. President <u>Donald Trump</u> on Monday revoked a 2023 executive order signed by <u>Joe Biden that sought</u> to reduce the risks that artificial intelligence poses to consumers, workers and national security.

Biden's order required developers of AI systems that pose risks to U.S. national security, the economy, public health or safety to share the results of safety tests with the U.S. government, in line with the Defense Production Act, before they were released to the public.

Why even bother learning all this?

Like software itself, Al will touch virtually every area of life in the years ahead.

Seeing the tremendous importance of science and recognizing its inevitable dominance in the modern world fundamentally changed my attitude to it from curiosity to a kind of urgent engagement.

The Dalai Lama

The next Monday, when the fathers were all back at work, we kids were playing in a field. One kid says to me, "See that bird? What kind of bird is that?" I said, "I haven't the slightest idea what kind of a bird it is." He says, "It's a brown-throated thrush. Your father doesn't teach you anything!"

But it was the opposite. He had already taught me: "See that bird?" he says. "It's a Spencer's warbler." (I knew he didn't know the real name.) "Well, in Italian, it's a Chutto Lapittida. In Portuguese, it's a Bom da Peida. In Chinese, it's a Chunglong-tah, and in Japanese, it's a Katano Tekeda. You can know the name of that bird in all the languages of the world, but when you're finished, you'll know absolutely nothing whatever about the bird. You'll only know about humans in different places, and what they call the bird. So let's look at the bird and see what it's doing — that's what counts."

(I learned very early the difference between knowing the name of something and knowing something.)

Richard P. Feynman, The Making of a Scientist

Topics

Computer science, AI, and algorithms	Workforce, finance, and medicine
Machine Learning	Criminal justice and risk assessment
AI in (NYC) government	Policing and immigration
Business, trade, and economics	Facial recognition; self-driving cars
Labor and the workforce	AI policy and AI institutions
Digital rights and responsible AI	Special topics
Privacy, security, and accountability	

Some overarching points

- What is meant by "AI" in the given context
- "Al policy" vs "Al ethics" vs "responsible Al"
- Comparisons to human systems (as baselines or otherwise)
- Concrete examples and case studies
- Fundamental concepts in CS, ML, etc.
- Al policy issues are frequently not about Al itself
- Distinguishing technology from policy/business questions
- Importance of historical perspectives and what is new vs not

Website walkthrough & week 1 reading

Course logistics

Grading

- Participation (20%)
- Weekly assignments (40%)
- Final paper (40%)
- Assignments submitted on Courseworks (add/drop exception)
- Office hours by appointment
- You must do the reading; the lectures are only complementary.
- Be on time; engage actively; write and present well.
- Sometimes the readings will be too difficult, or a bit too much. That's OK and is the typical experience in real life.

Class format

• The classes will vary from week to week based on material, but some recurring elements will include the following:

- Discussion of previous/next week's readings
- Complementary material, not from the readings
- Student-led presentations (groups + case studies)
- Guest lectures and Q&A
- Class discussion

Weekly assignments

- Reading
- Weekly written assignments (varying formats) or presentations

Learning and studying

- Consider organizing yourselves into study groups of 4-5
- Sign up for **newsletters** and/or podcasts and follow AI news (due to speed of development + will help you find a paper topic)
- Go over the **same material multiple times**, and **refer back** to the material in previous weeks as needed
- Actively look things up or come ask me when you run into anything unfamiliar or that you don't know
- Don't treat anything you're reading as settled. This is an emerging topic and it's good to question what you're reading.
 Some of this was made up by ordinary people quite recently!

Reading

- · Read with a pen or highlighter in hand
- Learn when to read slowly and when to read quickly
- Look up words, terms, or references you don't know as you go
- Always look up the authors and the publication venue
- Don't skip **footnotes**, **endnotes**, **and appendices** (the entire real content of the document is sometimes in appendices)
- Browse the citations to get an understanding of what other work is related to the current paper and possibly chase these
- You may want to print out the readings and mark them up

Writing

- Write simply and plainly, but communicate expertise.
- "Omit needless words." Strunk & White
- Use examples constantly.
- Keep the **reader** in mind and adjust accordingly.
- Keep the goal or intended outcome of the document in mind.
- Read lots of well-written things to help train your ear.
- · Leave plenty of time for editing and reducing length and cruft.
- Consider the reading level you're targeting (possibly formally).
- In addition to length, formatting matters.

Student introductions

Student introductions

- Name
- What SIPA program you're in
- Your background
- Why you're in this course
- Post-graduation goals (if you have any sense yet)
- Keep to 30-45 seconds

Computer science is about computers like astronomy is about telescopes.

Edsger W. Dijkstra