Massachusetts Institute of Technology

6.805 - STS.085/STS.487 Foundations of Internet Policy
Fall 2021

Week 6: A.I. Policy

Issued: Oct. 7, 2021

Class for Oct. 14, 2021

Please bring a laptop to this and to every class this semester - and make sure it's charged.

Goals for today

This class examines one of the newest and fastest-changing areas of technology policy today: the public policy, public trust, and public ethics concerns associated with artificial intelligence (AI) — specifically the use of machine learning-driven AI tools. In the reading and in class, we will explore (1) the technical capabilities and limitations of AI systems; (2) why these systems, when applied to "high-trust" areas like transportation, consumer finance, medicine, and hiring raise important public policy questions; and (3) how various stakeholders — governments, companies, civil society, and international organizations — are coming together to address these concerns.

Preparation for today's class

Reading
- Read Carefully: OECD AI Principles
  - Skim: State of Implementation of the OECD AI Principles [Jun 2021 Report]
- Read: U.S. Office of Mgmt. & Budget Memo: Guidance for Regulation of AI
- Read: Washington Post [OpEd], "Here's How to Regulate AI Properly" [Jan. 2020]
- Read: News Articles on Technical Challenges in AI with Policy Implications:
  - Verge: Google's AI thinks this turtle looks like a gun, which is a problem
  - Wired: The Best Algorithms Struggle to Recognize Black Faces Equally
  - IEEE Spectrum: NTSB Investigation Into Deadly Uber Self-Driving Car Crash Reveals Lax Attitude Toward Safety
- Read: U.S. Dept. of Transportation (NHTSA): Automated Driving System Policy
- Watch: AI Policy Forum Symposium — Mobility Task Force Panel:
  - *Note: you'll have to select the panel from the carousel on the right.*
- Skim: EU Ethical AI Guidelines

In-Class Timeline for Oct.14

1:00 - 1:30	**Lecture Part 1:** The Causes & Implications of "Broken" AI *Featuring special guest lecturer: [**Prof. Aleksander Madry**](#)*
1:30 - 1:50	**Lecture Part 2:** Applying AI to High-Trust, Regulated Environments
1:50 - 2:15	**Lecture Part 3:** Case Study in High-Trust AI — Diabetic Retinopathy
2:15 - 2:30	**Break**
2:30 - 2:40	**Intro to In-Class Exercise**: Regulating AI Systems in Practice **See pre-class preparation requirements below**
2:40 - 3:10	**In-Class Exercise:** Group Prep
3:10 - 3:25	**In-Class Exercise:** Group Presentations
3:25 - 3:55	**Final Lecture:** *The Global Public Policies of Artificial Intelligence* *Featuring special guest lecturer: [**Luis Videgaray**](#)*

Preparation for In-Class Exercise

For this week's in-class exercise, you will be taking on the role of U.S. regulators considering whether or not to deploy AI systems into the economy, and under what circumstances. Specifically, you will be playing the role of top officials in the United States [Department of Transportation](#) and the components that make it up (see: [DOT Organization Chart](#)). The class will be divided into three groups (by last name), each representing a different part of the agency, and each considering on its own a slightly different AI-enabled technology.

In preparation for class, find your group below and (1) review the webpage for your respective agency; (2) carefully read the company submission about the product they would like approval to operate; and (3) explore (at your own direction) resources about the Agency, Company, and other (company/civil society) stakeholders' perspectives about the advisability of releasing such technology for use in the United States.

In-Class Exercise

In class you will discuss among your group, debate, and issue recommendations on whether to approve — and under what circumstances — a particular AI-enabled technology in the transportation context. You should address, in your discussion, the technology's present and future impact on issues including, *inter alia,* **safety, economic growth, consumer convenience/nuisance, income/opportunity inequality,** and **impact on jobs**. In each case, consider how the evolution of the technology — specifically the AI-enabled system "driving" the vehicle — impacts your recommendation, and how that may change over time. As we will discuss in class, your Agency may recommend to **approve** with no conditions, **approve with conditions**, **approve for testing only**, or **disapprove at this time**. You will need to cite the public-interest reasons for your conclusion.

Surnames starting B-G
Group 1: National Highway Traffic Safety Administration (NHTSA)
Technology: Self-driving last-mile passengerless delivery vehicles
Company Submission: Nuro's R2

Surnames starting H-S
Group 2: Federal Motor Carrier Safety Administration (FMCSA)
Technology: Unmanned semi trucks for long-haul deliver
Company Submission: TuSimple's Autonomous Semi

Surnames starting T-Z
Group 3: Federal Aviation Administration (FAA)
Technology: Aerial Unmanned Delivery Drones
Company Submission: (Alphabet/Google Subsidiary) Wing's Delivery Drone, esp. Info: 1 | 2 | 3