IST 597.001
Foundations of Technology Ethics and Policy

Fall 2021

Prof. Daniel Susser   Class hours: Wed 2:30-5:30pm
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COURSE OBJECTIVES

This course introduces graduate students to urgent, ongoing debates in technology ethics, law, and policy. Technical developments in machine learning and artificial intelligence, their application in contexts such as automated decision-making and recommender systems, and the increasing dominance of platforms in the global economy have together produced a variety of complex governance challenges—e.g., problems related to privacy, algorithmic fairness, digital influence, and democratic accountability for technologies and technology firms. Addressing these issues requires collaboration across disciplines such as science and technology studies, law, philosophy, and computer and information science, and the success of such efforts depends on shared frameworks for understanding and evaluating the underlying problems. Accordingly, this course focuses on (1) introducing students to both long-standing and emerging frameworks for describing and addressing some of these governance challenges, and (2) helping students develop the skills needed to contribute, productively, to interdisciplinary technology ethics and policy efforts. In addition to familiarizing students with important areas of academic research, as a practical objective the course will teach students how to present their own research in ways that speak to and connect with audiences outside the academy (e.g., policymakers and the general public).

PREREQUISITES

Graduate standing or prior approval from the instructor.

REQUIRED TEXTS

All required texts for the course are available online or in the "Files" section of our course on Microsoft Teams.

ASSIGNMENTS AND GRADING

There are four graded assessments in this course, weighted as follows:

1. Reading responses: 20%
2. Presentation: 20%
3. Policy Brief: 20%
4. Final paper/project: 40%

Reading Responses

Each week, you will write a short response to one or more of our assigned readings. (NOTE: *starred readings don't count.) It should be exactly one single-spaced page, 1" margins, 12pt font. In the first half, you will describe the paper's central thesis and briefly recapitulate the argument. In the second half, you will critically reflect on the paper by (1) describing something you learned from the paper, something that surprised you, some ways it connects with other readings we've discussed, or the way it changed your thinking, and (2) listing 2-3 questions it left you with. The questions can challenge the paper's argument, clarify it, interrogate its assumptions, relate it to broader issues, etc.

You will submit your responses through Microsoft Teams as a .doc or .docx file. **They are due each week by Tuesday midnight (the evening before our class meets).** I will accept late responses up to 24 hours after our class meetings (i.e., until Wednesday evening) for half credit. If you are absent, you must submit your response by the regular deadline(s) to receive credit. While there are 13 class days with reading responses due, you are only required to submit 10. You do not have to submit a reading response on the day you are giving a class presentation (see next section), and beyond that you get two free passes—use them wisely!

Presentation

Once during the semester, each student will introduce the day's readings and frame our discussion. We'll assign presentation slots on the first day of class—if you need or want to change your assignment later, it is your responsibility to trade with a classmate and notify me of the change. Presentations should be roughly 10-15 minutes long and aim to achieve the following: (1) *briefly* highlight the main substantive issues tackled in each reading, (2) relate those issues to previous readings and discussions, (3) describe what you found interesting or insightful about the perspectives the readings offered, and (4) raise some critical questions to kick off class discussion. You can use slides or a handout to help organize your comments if you want (maximum 4 slides or 1 page), but they are not required.

Two notes about presentations. First, you should *not* recapitulate the arguments in detail, as everyone will have read the papers. The idea is to jog people's memories about the central issues and use them to frame a constructive discussion. Second, I am *not* expecting you to demonstrate mastery over the material in your presentation—what I want to see is thoughtful, critical engagement.

Policy Brief

A central theme of this course is that translating ethical and political commitments into concrete strategies for governing sociotechnical systems requires complex trade-offs. Helping all of the relevant stakeholders and decision-makers—who inevitably have a wide range of knowledge, expertise, and technical competence—understand these trade-offs is a further challenge. For technologists, critical technology scholars, and technology policy experts to contribute meaningfully to these decision-making processes, they have to be able to explain the decision space and its stakes clearly and accessibly. To practice this skill, you will write a short (3-5 pages) policy brief, outlining the nature of a concrete technology policy problem, some options for addressing it, and the implications of choosing each option. You will choose the problem you want to tackle—it can be something we discuss explicitly in the course, but it doesn't have to be. We will discuss the assignment in more detail during class, and **your brief is due any time before Thanksgiving break.**

Final Paper/Project

The purpose of your final assessment is twofold: (1) to demonstrate command over central concepts and problems from the course, and (2) to put it to use, either by incorporating course themes into existing projects or by initiating a new project that will benefit you beyond this course. I am exceedingly open-minded about what that might look like. You are required to meet with me **no later than Friday, November 5th** to discuss your plans, and **an abstract of your project is due Friday, November 12th.**

POLICIES

Academic Integrity

Graduate school is stressful. Sometimes we take on too much or otherwise get in over our heads. If you feel overwhelmed or think you might not be able to meet my expectations in this course, please come discuss it with me—I'm 100% sure we can sort it out. If, however, you choose to go the other route, and I discover that you have cheated, plagiarized, or engaged in any other form of academic dishonesty, I will report it to the university immediately and recommend that you fail the course. If you aren't sure whether something counts as plagiarism, please ask!

Accommodating Disabilities

I am committed to all students succeeding in this course, and I have tried to construct it in a way that is universally accessible by default. But I'm sure it falls short of that ideal. If you have any kind of disability, visible or invisible, learning, emotional, physical, or cognitive, and you need accommodations or alternatives to lectures or other assignments, please contact me—preferably during the first week of class. (Though if something comes up later that you didn't anticipate, you can of course get in touch with me then.) For a variety of reasons it is also wise to formally document your disability with Student Disability Resources in the Office of the Vice Provost for Educational Equity. More information at http://equity.psu.edu/student-disability-resources/

Counseling and Psychological Services

It is very common for students to face personal challenges or have psychological needs that interfere with their academic progress or general well-being. Please do not try to overcome those challenges on your own! The university offers a variety of confidential services to help you through difficult times, including individual and group counseling, crisis intervention, consultations, online chats, and mental health screenings. These services are provided by staff who welcome all students and embrace a philosophy respectful of clients' cultural and religious backgrounds, and sensitive to differences in race, ability, gender identity and sexual orientation. You can reach University Park CAPS by phone at (814) 863-0395 or online at http://studentaffairs.psu.edu/counseling/

Penn State also has a 24/7 Crisis Phone Line, which you can reach at (877) 229-6400, and a Crisis Text Line, which you can reach by texting LIONS to 741741.

Reporting Bias

I take bias and discrimination very seriously, as does the university. If you believe you have experienced or observed a hate crime, an act of intolerance, discrimination, or harassment, I encourage you to come speak with me immediately and/or to report it to the university. More information at http://equity.psu.edu/reportbias/

COURSE SCHEDULE

The following is a *tentative* schedule, which we'll adjust as we see how slowly or quickly we move through the material. It is your responsibility to attend class and to read the emails/messages I send out in order to keep up with any changes.

<u>Setting the Table</u>

August 25

Introductions, Overview, Expectations, Some preliminary questions

1. L.M. Sacasas. "The Questions Concerning Technology."
   https://theconvivialsociety.substack.com/p/the-questions-concerning-technology
2. Langdon Winner. "Technologies as Forms of Life." In *The Whale and the Reactor: A Search for Limits in an Age of High Technology*. University of Chicago Press, 1989.

September 1

Technologies and Values

1. Langdon Winner. "Do Artifacts Have Politics?" In *The Whale and the Reactor: A Search for Limits in an Age of High Technology*. University of Chicago Press, 1989.
2. Lawrence Lessig. Excerpt from *Code and Other Laws of Cyberspace*. Basic Books, 1999.

3. Cathy O'Neil. "Bomb Parts." In *Weapons of Math Destruction: How Big Data Increases Inequality and Threatens Democracy.* Broadway Books, 2016.
4. Watch: "Databite No. 124: Ruha Benjamin."
   https://www.youtube.com/watch?v=zZEVAVf6_Ak

September 8

Genres of Response

1. * Daniel Susser. "Ethics Alone Can't Fix Big Tech." *Slate.* April 17, 2019.
   https://slate.com/technology/2019/04/ethics-board-google-ai.html
2. * Ben Tarnoff and Moira Weigel. "Silicon Valley Workers Have Had Enough." *The New York Times*, 2021. https://www.nytimes.com/2021/01/26/opinion/silicon-valley-tech-workers.html
3. Brent Mittelstadt, Patrick Allo, Mariarosaria Taddeo, Sandra Wachter, and Luciano Floridi. "The Ethics of Algorithms: Mapping the Debate." *Big Data & Society,* 2016. (Skim)
4. Sheila Jasanoff. "The Power of Technology." In *The Ethics of Invention: Technology and the Human Future.* W. W. Norton & Company, 2016. (Read pp. 13-26, Skim rest)
5. Jacob Metcalf, Emanuel Moss, and danah boyd. "Owning Ethics: Corporate Logics, Silicon Valley, and the Institutionalization of Ethics." *Social Research: An International Quarterly* 82(2), 2019.

Part 1: Tracking

September 15

Information, Modulation, Control

1. * Luke Stark. "Facial Recognition is the Plutonium of AI." *ACM XRDS: Crossroads* 25(3), 2019. https://dl.acm.org/doi/10.1145/3313129
2. Phil Agre. "Surveillance and Capture: Two Models of Privacy." *The Information Society* 10, 1994.
3. Julie Cohen. "What Privacy is For." *Harvard Law Review* 126, 2013.
   https://cdn.harvardlawreview.org/wp-content/uploads/pdfs/vol126_cohen.pdf

September 22

Privacy is Dead, Long Live Privacy

1. * Alvaro Bedoya. "Big Data and the Underground Railroad." *Slate,* 2014.
   https://slate.com/technology/2014/11/big-data-underground-railroad-history-says-unfettered-collection-of-data-is-a-bad-idea.html
2. Daniel Solove. "Privacy Self-Management and the Consent Dilemma." *Harvard Law Review* 126, 2013. (Read pp. 1880-1893)
   https://harvardlawreview.org/wp-content/uploads/pdfs/vol126_solove.pdf

3. Helen Nissenbaum. Excerpt from *Privacy in Context: Technology, Policy, and the Integrity of Social Life*. Stanford University Press, 2010.
4. Sarah Spiekermann and Lorrie Faith Cranor. "Engineering Privacy." *IEEE Transactions on Software Engineering* 35(1), 2009.

September 29

New Battlegrounds

1. * Salomé Viljoen, "Data Relations." *Logic Magazine,* 2021. https://logicmag.io/distribution/data-relations/
2. Ari Waldman. "Privacy Law's False Promise." *Washington University Law Review* 97, 2019. (Read pp. 1-13 and 53-62, Skim pp. 14-52)
3. Chris Hoofnagle, Bart van der Sloot, and Frederik Zuiderveen Borgesius. "The European Union General Data Protection Regulation: What it is and What it Means." *Information & Communications Technology Law* 28(1), 2019. (Read pp. 65-72, 76-82, and 88-92.)
4. Lina Khan. "The End of Antitrust History Revisited." *Harvard Law Review* 133, 2020. https://privpapers.ssrn.com/sol3/papers.cfm?abstract_id=3552132

Part 2: Judging

October 6

Judged by Machines

1. * Joy Buolamwini. "Written Testimony to the US House Committee on Oversight and Government Reform, Hearing on Facial Recognition Technology and Its Impact on Our Civil Rights and Liberties." May 22, 2019. https://docs.house.gov/meetings/GO/GO00/20190522/109521/HHRG-116-GO00-Wstate-BuolamwiniJ-20190522.pdf
2. Virginia Eubanks. "Automating Eligibility in the Heartland." In *Automating Inequality: How High-Tech Tools Profile, Police, and Punish the Poor.* St. Martin's Press, 2018.
3. Danielle Keats Citron and Frank Pasquale. "The Scored Society: Due Process for Automated Predictions." *Washington Law Review* 89, 2014. (Read pp. 1-18, Skim rest)

October 13

Bias, Then and Now

1. Batya Friedman and Helen Nissenbaum. "Bias in Computer Systems." ACM Transactions on Information Systems, 14(3), 1996. (Read pp. 330-336)
2. Solon Barocas and Andrew Selbst. "Big Data's Disparate Impact." *California Law Review* 104, 2016. (Read pp. 671-693, Skim pp. 694-714)
3. Harini Suresh and John Guttag. "A Framework for Understanding Sources of Harm Throughout the Machine Learning Life Cycle." https://arxiv.org/abs/1901.10002 (Skim)

4. Andrew Selbst, danah boyd, Sorelle Friedler, Suresh Venkatasubramanian, Janet Vertesi. "Fairness and Abstraction in Sociotechnical Systems." *Proceedings of the ACM Conference on Fairness, Accountability, and Transparency*, 2019. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3265913

October 20

Fifty Shades of Fairness

1. * Julia Angwin, Jeff Larson, Surya Mattu, and Lauren Kirchner. "Machine Bias." *ProPublica,* 2016. https://www.propublica.org/article/machine-bias-risk-assessments-in-criminal-sentencing
2. Reuben Binns. "Fairness in Machine Learning: Lessons from Political Philosophy." *Proceedings of Machine Learning Research* 81, 2018. https://arxiv.org/abs/1712.03586
3. Shira Mitchell, Eric Potash, Solon Barocas, Alexander D'Amour, and Kristian Lum. "Algorithmic Fairness: Choices, Assumptions, and Definitions." *Annual Review of Statistics and Its Applications* 8, 2021. (Skim) https://www.annualreviews.org/doi/pdf/10.1146/annurev-statistics-042720-125902

October 27

Justice Beyond Fairness?

1. * Julia Powles and Helen Nissenbaum. "The Seductive Diversion of 'Solving' Bias in Artificial Intelligence." *OneZero*, 2018. https://onezero.medium.com/the-seductive-diversion-of-solving-bias-in-artificial-intelligence-890df5e5ef53
2. Anna Lauren Hoffmann. "Where Fairness Fails: Data Algorithms, and the Limits of Antidiscrimination Discourse." *Information, Communication & Society* 22(7), 2019.
3. Ben Green. "Impossibility of What? Formal and Substantive Equality in Algorithmic Fairness." 2021 (preprint). https://arxiv.org/abs/2107.04642

Part 3: Targeting

November 3

Promises and Perils of Personalization

1. * Noam Scheiber. "How Uber Uses Psychological Tricks to Push Its Drivers' Buttons." *The New York Times*, 2017. https://www.nytimes.com/interactive/2017/04/02/technology/uber-drivers-psychological-tricks.html
2. * Ava Kofman and Ariana Tobin. "Facebook Ads Can Still Discriminate Against Women and Older Workers, Despite a Civil Rights Settlement." *ProPublica*, 2019.

https://www.propublica.org/article/facebook-ads-can-still-discriminate-against-women-and-older-workers-despite-a-civil-rights-settlement

3. Oscar Gandy. "Coming to Terms with the Panoptic Sort." In *Computers, Surveillance, and Society,* edited by David Lyons and Elia Zureik. Minneapolis: University of Minnesota Press, 1996. (Read pp. 132-142, Skim pp. 143-152)

4. Daniel Susser, Beate Roessler, and Helen Nissenbaum. "Technology, Autonomy, and Manipulation." *Internet Policy Review* 8(2), 2019. https://policyreview.info/articles/analysis/technology-autonomy-and-manipulation

November 10

The Digital Influence Machine

Note: Final project abstracts due Friday, November 12th.

1. * Cailin O'Connor. "The Information Arms Race Can't Be Won, But We Have to Keep Fighting." *Aeon*, 2019. https://aeon.co/ideas/the-information-arms-race-cant-be-won-but-we-have-to-keep-fighting

2. * Alex Heath. "Facebook is Rebuilding its Ads to Know a Lot Less About You." *The Verge*, 2021. https://www.theverge.com/2021/8/11/22619639/facebook-plans-privacy-focused-advertising-revamp

3. Anthony Nadler, Matthew Crain, Joan Donavan. "Weaponizing the Digital Influence Machine: The Political Perils of Online Ad Tech." *Data & Society*, 2018. https://datasociety.net/wp-content/uploads/2018/10/DS_Digital_Influence_Machine.pdf

November 17

Toward Moderation?

Note: Final day to submit your Policy Brief is November 19th.

1. * Alex Hearn. "Is Apple Taking a Dangerous Step into the Unknown?" *The Guardian*, 2021. https://amp.theguardian.com/technology/2021/aug/11/techscape-apple-iphone-child-abuse-images

2. Jonathan Zittrain. "Tethered Appliances, Software as a Service, and Perfect Enforcement." In *The Future of the Internet and How to Stop It.* Yale University Press, 2008.

3. Kate Klonick. "The New Governors: The People, Rules, and Processes Governing Online Speech." *Harvard Law Review* 131, 2018. (Skim pp. 1599-1615, Read pp. 1630-1670) https://harvardlawreview.org/wp-content/uploads/2018/04/1598-1670_Online.pdf

November 24

Thanksgiving

<u>Coda: Governing?</u>

December 1

Paths Forward

 Readings TBD

December 8

Parting Thoughts

No reading