CSE 5/692: Ethics for CS & EE, Spring 2017

"The Death of Socrates," by Jacques-Louis David. Oil on canvas, 1787. Licensed under Public Domain via Wikimedia Commons.

Description

Computer science research has changed dramatically over the last ten years, both in terms of the ways in which it is conducted as well as the ends to which it is applied. Research in our field is powered by large quantities of data- Tweets, clicks, records, posts, etc.- which, as a rule, were all created by somebody, somewhere, raising complex issues of informed consent and data protection.

Furthermore, the statistical algorithms and computational techniques that we and others in our field build are finding their way into every corner of our lives. They determine what news we see, affect our financial and professional choices, and are beginning to be widely used as part of our criminal justice system. As they do so, they interact with all aspects of our society, flattening some forms of inequality while amplifying others, often in subtle and surprising ways. Seemingly-minor methodological choices by system designers can have profound consequences on people's lives.

This course will explore these and other issues, with the goal of preparing researchers-in-training to responsibly conduct research in this area, and also to prepare them for their professional careers.

Logistics

Location

Gaines Hall, Room 5

Time

Tuesdays 14:00 – 15:30

Schedule

Note: Topics and speakers may change through the term as we adjust our course plan.

Week	Date	Topic	Materials	Readings	Discussants
1	4/4/17	Introduction & Overview	Jill's Slides; Steve's Slides	Week 1 Readings	
2	4/10/17	Regulatory Issues, Informed Consent & Crowdsourcing		Week 2 Readings	
3	4/17/17	Privacy: Introduction		Week 3 Readings	Neelay
4	4/24/17	Privacy & Research		Week 4 Readings	Liu
5	5/2/17	Copyright & IP		Week 5 Readings	Sfurti, Ogi
6	5/9/17	Algorithmic Bias		Week 6 Readings	Philip, Moises
7	5/16/17	Authorship & Data		Week 7 Readings	Archana
8	5/23/17	Social implications & Dual-Use Problems		Week 8 Readings	Annie, Anders
9	5/30/17	Guest Lecture: Meg Mitchell			
10	6/6/17	Diversity & Representation		Week 10 Readings	Meghana
11	6/13/17	Professional Ethics in CS & ML		Week 11 Readings	Rosemary
12	6/20/17	FAT-ML		Week 12 Readings	Neha, Tuan

Assignments & Grading

Assigned readings for each session may be found below, grouped by week. Students are expected to have read each week's readings before class (excepting the first session), and to be prepared to discuss them in class. In cases where readings are not available through the OHSU Library, we will provide copyright-cleared copies of the articles.

Additionally, students will be expected to take turns leading discussions (to be counted towards the participation component of the grade).

This is a one-credit class, and is intended to be highly interactive. As such, grades will be 60% based on class participation, and 40% based on writing assignments.

The class will contain two writing assignments.

Assignment 1

For this assignment, first pick one of the basic ethical principles discussed during the first lecture (autonomy, beneficience, etc.). Second, write a short (1-2 pages) written reflection about how you see that principle interacting with an NLP, AI, machine learning, etc. research question (or real-world application of AI/NLP/etc.). This writing prompt *is intentionally open-ended*: you are free to go in whatever direction you wish with it. You may write about a way in which the principle conflicts with a research goal, or a way in which a particular research project or application is in line with the principle, or any other sort of interaction you wish. Feel free to include references to articles, papers, etc. if necessary.

The assignment is due on Tuesday, April 18. Please turn it in via email, and include "CS692 Assignment 1" in the subject.

Assignment 2

Choose an incident, event, occurrence, situation, etc. that has both computational and ethical considerations. You may pick anything you find interesting or compelling, and you should feel free to either choose something that was discussed in one of our reading sets or to pick something entirely different that you find on your own. It can be an example of an ethical lapse or failure, an example of a company/organization/individual acting properly, or a more nuanced situation altogether. *This is intentionally open-ended*, and we expect you to have to do some reading and research on your own to identify an interesting topic.

Once you have made your selection, generate an analysis following the analytical framework outlined in section 9.3.1 of Gift of Fire, 4th edition. We expect your analysis to be in the 4-5 page range, and to include appropriately-cited external sources (don't worry, citations do not count towards the page count).

This assignment is due on Friday, June 23rd, by 5:00 pm ("end of business", as they say). Please turn it in via email, and include "CS692 Assignment 2" in the subject.

Textbooks

- Cathy O'Neil, Weapons of Math Destruction.
- Sara Baase & Timothy M. Henry, Gift of Fire.
    - *A note on editions:* The link above is to the brand-new 5th edition; many reasonably-priced used copies of the 4th edition are available on Amazon.com, and while much good content has been added in the new edition, the 4th edition is recent enough that it should be usable for this class.
- Nicholas Steneck, ORI Introduction to the Responsible Conduct of Research (available online)

Resources

Assigned Readings

Week 1: Introduction & Overview

Required Readings

- Steneck, Chapters 1 and 3
- O'Neil, "Introduction" and Chapter 1
- Baase, Chapter 1
- Sarewitz D, Nelson R. Three rules for technological fixes. Nature. 2008 Dec 18;456(7224):871–2.
- Crawford K, Calo R. There is a blind spot in AI research. Nature 2016 October 13; 538(7625)
- Excerpt from Skloot R., "The Immortal Life of Henrietta Lacks":
    - Preface
    - First Chapter
    - Radiolab segment, "Henrietta's Tumor"

Recommended Readings

- Winner L. Do Artifacts Have Politics? Daedalus. 1980;109(1):121–36.

Week 2: Regulatory Issues, Informed Consent, & Crowdsourcing

Required Readings

- Markham A, "Assessing the "Creepy" Factor: Shifting from Regulatory Ethics models to More Proactive Approaches to 'Doing the Right Thing' in Technology Research", lecture at Microsoft Research on May 8 2015
- Association of Internet Researchers Ethical Guidelines:
    - Ethical decision-making and Internet research 2.0: Recommendations from the AoIR ethics working committee
    - Accompanying handout

- Markham, A. N., & Buchanan, E. (2017). Research ethics in context: Decision-making in digital research. In Schäfer, M. T., & van Es., K. (Eds). The Datafied Society: Studying Culture through Data (201-209). Amsterdam: University of Amsterdam Press.
- Metcalf J, Crawford K. Where are human subjects in Big Data research? The emerging ethics divide. Big Data & Society. 2016;3(1)
- Nair K, Willison D, Holbrook A, Keshavjee K. Patients' consent preferences regarding the use of their health information for research purposes: a qualitative study. J Health Serv Res Policy. 2004 Jan;9(1):22–7.
- Silberman MS, Irani L, Ross J. Ethics and Tactics of Professional Crowdwork. ACM XRDS. 2010 Dec;17(2):39–43.
- Lease M, Hullman J, Bingham JP, Bernstein M, Kim J, Lasecki WS, et al. Mechanical Turk is Not Anonymous. SSRN. 2013. p. 1–15.
- Chandler J, Shapiro D. Conducting Clinical Research Using Crowdsourced Convenience Samples. Annu Rev Clin Psychol. Annual Reviews; 2016;12(1):53–81.

Recommended Readings

- D. Dittrich and E. Kenneally, "The Menlo Report: Ethical Principles Guiding Information and Communication Technology Research", Tech. rep., U.S. Department of Homeland Security, Aug 2012.
- Chittilappilly AI, Chen L, Amer-Yahia S. A Survey of General-Purpose Crowdsourcing Techniques. IEEE Transactions on Knowledge and Data Engineering. 2016 Sep;28(9):2246–66.
- Ioannidis JPA. Informed consent, big data, and the oxymoron of research that is not research. Am J Bioeth. 2013;13(4):40–2.

Week 3: Privacy, part 1: What is Privacy?

Required Readings

- Baase, Chapter 2
- Nissenbaum H. A Contextual Approach to Privacy Online. Daedalus. 2011 Oct;140(4):32–48.
- Acquisti A, Brandimarte L, Loewenstein G. Privacy and human behavior in the age of information. Science. 2015 Jan 30;347(6221):509–14.
- Marwick AE, boyd D. Networked privacy: How teenagers negotiate context in social media. New Media & Society. 2014 Nov;16(7):1051–67.

Note: The Nissenbaum reading is available via the OHSU Library- search for the journal "Daedalus", and go from there.

Week 4: Privacy, part 2: Research Practices

Quote of the day:

> "It terrifies me when those who are passionate about Big Data espouse the right to collect, aggregate, and analyze anything that they can get their hands on. In short, if it's accessible, it's fair game. To get here, we've perverted "public" to mean "accessible by anyone under any conditions at any time and for any purpose." *We've stripped content out of context, labeled it data, and justified our actions by the fact that we had access to it in the first place.*"

danah boyd, "Privacy and Publicity in the Context of Big Data", presented at WWW '10 (emphasis added)

Required Readings

- Baase, Chapter 2
- Zimmer M. "But the data is already public": on the ethics of research in Facebook. Ethics and Information Technology. 2010;12(4):313–25.
- Vitak J, Shilton K, Ashktorab Z. Beyond the Belmont Principles: Ethical Challenges, Practices, and Beliefs in the Online Data Research Community. in Proc. ACM Conf. on Computer-Supported Cooperative Work & Social Computing, 2016. p. 941–53.
- Rivers CM, Lewis BL. Ethical research standards in a world of big data [version 2; referees: 3 approved with reservations]. F1000Research. 2014;3(38).
- Reddy S, Knight K. Obfuscating Gender in Social Media Writing. Proceedings of the First Workshop on NLP and Computational Social Science, 2016

Highly Recommended Readings

- Smith HJ, Milberg SJ, Burke SJ. Information Privacy: Measuring Individuals' Concerns about Organizational Practices. MIS quarterly. 1996;20(2):167–96.
- Van Schie G, Westra I and Schäfer M. T. "Get Your Hands Dirty: Emerging Data Practices as Challenge for Research Integrity" In Schäfer, M. T., & van Es., K. (Eds). The Datafied Society: Studying Culture through Data (201-209). Amsterdam: University of Amsterdam Press.
- Uršič, Helena. 2017. "The Right to be Forgotten or the Duty to be Remembered? Twitter data reuse and implications for user privacy." Council for Big Data, Ethics, and Society.
- Gehrke J. Quo vadis, data privacy? Ann N Y Acad Sci. 2012;1260(1):45–54.
- Other Relevant Cases:
    - AOL Search Data:
        - Wikipedia, "AOL Search Data Leak"
        - Barbaro & Zeller, "A Face Is Exposed for AOL Searcher No. 4417749", NYT, Aug 9 2006
    - The Kirkegaard and Bjerrekær OKCupid Incident:
        - Resnick, "Researchers just released profile data on 70,000 OkCupid users without permission", Vox.com, May 12 2016
        - Zimmer, "OkCupid Study Reveals the Perils of Big-Data Science", Wired, May 14 2016
        - Markham, "The OKCupid data release fiasco: It's time to rethink ethics education", Social Media Collective, May 18 2016

Week 5: Intellectural Property & Copyright

"This song is Copyrighted in U.S., under Seal of Copyright #154085, for a period of 28 years, and anybody caught singin it without our permission, will be mighty good friends of ourn, cause we don't give a dern. Publish it. Write it. Sing it. Swing to it. Yodel it. We wrote it, that's all we wanted to do."

The original copyright notice on "This Land is Your Land", by Woody Guthrie.

Required Readings

- Baase, Chapter 4
- Morin A, Urban J, Sliz P. A Quick Guide to Software Licensing for the Scientist-Programmer. PLoS Comput Biol. 2012 Jul;8(7):1–7.
- Carroll MW. Sharing Research Data and Intellectual Property Law: A Primer. PLoS Biol. 2015 Aug;13(8):1–11.
- Case studies:
    - Authors Guild v. Google:
        - Rosenberg, "How Google Book Search Got Lost", Backchannel 4/11/17
        - Castro C, de Queiroz R. The Song of the Sirens: Google Books Project and copyright in a digital age. Information, Communication & Society. 2013;16(9):1441–55.
        - Authors Guild v. Google, Inc., 954 F. Supp.2d 82 (S.D.N.Y. 2013) (from the online Supplement to the Ninth Edition of Copyright Law by Joyce et al.)
    - Blood & Body Parts:
        - Skloot, "Taking the Least of You". NYT Magazine, 4/16/2006
        - Petrini C. Ethical and legal considerations regarding the ownership and commercial use of human biological materials and their derivatives. Journal of Blood Medicine. 2012 Sep;3:87–96.
    - Scraping & Text Mining
        - Van Noorden R. Trouble at the text mine. Nature. 2012 Mar 7;:134–5.
        - Bloudoff-Indelicato M. Text-mining block prompts online response. Nature. 2015 Nov;527:413.
        - Hartgerink, "Why Elsevier's "solution" is the problem", posted 11/20/2015.
        - Piwowar, "Elsevier Agrees UBC Researchers Can Text-Mine For Citizen Science, Research Tools", posted 4/17/2012
        - Truyens M, Van Eecke P. Legal aspects of text mining. Computer Law & Security Review. 30(2):153–70.
        - As a sidebar, the case of Aaron Swartz and JSTOR is worth reading about:
            - Sims N. Library licensing and criminal law: The Aaron Swartz case. College & Research Libraries News. 2011;72(9):534–7.
            - Wiedeman, "JSTOR and the Case of the Over-Downloader", The New Yorker, 7/20/2011
            - Wu, "Fixing the Worst Law in Technology", The New Yorker, March 18, 2013

Week 6: Algorithmic Bias

Required Readings

- WMD Chapters 5, 6, 8 (chapter 9 recommended but optional)
- Zeynep Tüfekçi, "Machine intelligence makes human morals more important"
- Friedman B, Nissenbaum H. Bias in Computer Systems. ACM Trans. Inf. Syst. 1996 Jul;14(3):330–47.
- Kirkpatrick K. Battling Algorithmic Bias: How Do We Ensure Algorithms Treat Us Fairly? Commun. ACM. New York, NY, USA: ACM; 2016 Sep;59(10):16–7.
- Julia Angwin, Jeff Larson, Surya Mattu and Lauren Kirchner, "Machine Bias", ProPublica May 23, 2016
- Case Study: Google Image-tagging
    - Grush, 2015. "Google engineer apologizes after Photos app tags two black people as gorillas."
    - Zomorodi 2015. "Why Google 'Thought' This Black Woman Was a Gorilla."
- Case Study: Word Embeddings
    - Kalai, "How machine learning can amplify or remove gender stereotypes"
    - Bolukbasi T, Chang K-W, Zou JY, Saligrama V, Kalai AT. Man is to Computer Programmer as Woman is to Homemaker? Debiasing Word Embeddings. Proc NIPS 2016. p. 4349–57.
    - Caliskan A, Bryson JJ, Narayanan A. Semantics derived automatically from language corpora contain human-like biases. Science. 2017 Apr 14;356(6334):183–6.

Recommended Readings

- boyd, Levy, Marwick. "The Networked Nature of Algorithmic Discrimination" Open Technology Institute. Retrieved from http://www.danah.org/papers/2014/DataDiscrimination.pdf
- Calders T, Verwer S. Three naive Bayes approaches for discrimination-free classification. Data Mining and Knowledge Discovery. 2010;21(2):277–92.

Week 7: Authorship & Data

Required Readings

- Authorship
    - Solomon J. Programmers, Professors, and Parasites: Credit and Co-Authorship in Computer Science. Science and Engineering Ethics. 2009;15(4):467–89.
    - "Writing Code", from "Academic Integrity at MIT: A Handbook for Students" (Accessed May 2017)
- Reproducibility
    - LeVeque RJ. "Top Ten Reasons to Not Share Your Code (and why you should anyway)". SIAM News, April 2013.

    - Fokkens A, Erp M, Postma M, Pedersen T, Vossen P, Freire N. Offspring from Reproduction Problems: What Replication Failure Teaches Us. Proc. ACL 2013. p. 1691–701.
    - Singh Chawla D. The unsung heroes of scientific software. Nature. 2016 Jan 7;529(7584):115–6.
    - Peng RD. Reproducible research in computational science. Science. 2011 Dec 2;334(6060):1226–7.
    - Sandve GK, Nekrutenko A, Taylor J, Hovig E. Ten simple rules for reproducible computational research. Bourne PE, editor. PLoS Comput Biol. Public Library of Science; 2013 Oct;9(10):e1003285.
- Data (and its falsification)
    - Buranyi, S. The hi-tech war on science fraud. The Guardian, Feb. 1 2017
    - Fanelli D. How many scientists fabricate and falsify research? A systematic review and meta-analysis of survey data. Tregenza T, editor. PLoS ONE. Public Library of Science; 2009 May 29;4(5):e5738. (make sure to read the author's note regarding a small (but important) typographic error)

Other Resources

- NIH Sharing Policies and Related Guidance on NIH-Funded Research Resources

Week 8: Dual-Use Technologies & Social Implications

Required Readings

- WMD Chapters 4 and 10
- GoF Chapter 7
- Dual-Use Problems
    - Winograd T. Strategic Computing Research and the Universities. In Directions and Implications of Advanced Computing, Jacky JP, Schuler D, editors. 1989. p. 18–32.
    - Hovy D, Spruit LS. The Social Impact of Natural Language Processing. ACL 2016 p. 591–8.
    - Cho A. Computer science. Network science at center of surveillance dispute. Science. 2013 Jun 14;:1272–2.
- Social Implications
    - The AI Now Report: The Social and Economic Implications of Artificial Intelligence Technologies in the Near-Term
    - Mukherjee S, "AI vs. MD", The New Yorker 4/3/2017
    - AI & Politics:
        - Anderson B, "The Rise of the Weaponized AI Propaganda Machine", Published on Medium 2/12/2017
        - Cadwalladr C, "The great British Brexit robbery: how our democracy was hijacked", The Guardian 5/7/2017
    - Cegłowski M, "Remarks at a panel on 'The Moral Economy of Tech'", delivered at the Society for the Advancement of Socio-Economics 6/26/2016.

Recommended Readings

- xkcd #1831, "Here to Help"

Week 10: Diversity & Representation

A note about this week's readings: we have selected what we think are a manageable number of meaningful, important, and useful readings, given that we have a finite amount of time. This is *not* intended to be an exhaustive treatment of this topic; there are many missing subjects in this list (as just one example, we did not include any required readings on accessibility or other issues around ableism in tech). Please consider this week's list of readings to be a *starting point*, and also do consider checking out some of the recommended readings. Also note that many of these readings describe examples of racial or gender bias and occasionally harassment, so pace yourself accordingly if you need to.

Required Readings

Note: Most of these are quite short!

- Bias
  - Visit Harvard's Project Implicit and take one or two of their tests. *Be prepared to discuss which ones you took*, and (if you are comfortable doing so) what you learned.
  - Heilman ME, Haynes MC. No credit where credit is due: attributional rationalization of women's success in male-female teams. J Appl Psychol. 2005 Sep;90(5):905–16.
  - Jay Smooth, "How to tell someone they sound racist"
- Privilege
  - Peggy McIntosh, "White Privilege: Unpacking the Invisible Knapsack", Peace and Freedom Magazine, July/August, 1989, pp. 10-12
    - This originally was published as part of a slightly longer article that also includes observation on gender-based privilege as well as race-based privilege; we encourage you to check it out as well!
  - Tess Rinearson, "On Technical Entitlement"
  - Philip Guo, "Silent Technical Privilege"
- Imposter Syndrome
  - Alice Liu, "Overcoming Impostor Syndrome Or How I Learned to Stop Worrying and Love Coding" (also relevant: the author's follow-up piece, written two years later)
  - Cate Huston, "The Trouble with Imposters"
- Overlap with technical choices:
  - "Real Name" policies
    - boyd D. The Politics of "Real Names." Commun. ACM. New York, NY, USA: ACM; 2012 Aug;55(8):29–31.
    - "Who is harmed by a 'Real Names' policy?" on the Geek Feminism Wiki
  - Ad Targeting

    - Annalee Newitz, Facebook's ad platform now guesses at your race based on your behavior, ArsTechnica 3/18/2016
    - Julia Angwin & Terry Parris Jr., Facebook Lets Advertisers Exclude Users by Race, ProPublica 10/28/2016
    - Christian Martinez, "The power to connect with people on Facebook through diverse speech is incredibly meaningful..." (Official Facebook statement on the subject)
    - Julia Angwin, Facebook Says it Will Stop Allowing Some Advertisers to Exclude Users by Race, ProPublica 11/11/2016

Recommended Readings

- Joshua Rothman interview with Peggy McIntosh, "The Origins of 'Privilege'", The New Yorker 5/12/2014
- John Scalzi, "Straight White Male: The Lowest Difficulty Setting There Is"
- Alexis Hancock, "How The Rhetoric of Imposter Syndrome is Used to Gaslight Women in Tech"
- Rachel Thomas, "If you think women in tech is just a pipeline problem, you haven't been paying attention"
- Erica Joy, "The Other Side of Diversity"
- Sammy Ahmed, "Is Silicon Valley's Meritocracy Ethos Anti-diversity?"
- Amp, "How Not To Be A Doofus When Accused of Racism (A Guide for White People)" *(Note: does not just apply to white people, and not just to racism)*
- Julie Pagano, "On Making Mistakes"
- Patrick McKenzie, "Falsehoods Programmers Believe About Names"
- Jillian C. York, "A Case for Pseudonyms" (EFF Whitepaper)
- Michael K. Williams on being typecast
- Qntm, "Gay marriage: the database engineering perspective"
- Carina C. Zona, "Schemas for the Real World", Presented @ SCNA 2013
- Sarah Dopp, "Genders and Drop-down Menus"
- Svetlana Kouznetsova, Why the Signing Gloves Hype Needs to Stop
- Andrea Rubenstein, "'Check my what?' On privilege and what we can do about it."
- Cheryan S, Master A, Meltzoff AN. Cultural stereotypes as gatekeepers: increasing girls' interest in computer science and engineering by diversifying stereotypes. Front Psychol. 2015;6:49. PMCID: PMC4323745
- Crenshaw K. Mapping the Margins: Intersectionality, Identity Politics, and Violence against Women of Color. Stanford Law Review. Stanford Law Review; 1991;43(6):1241–99.
- Chanda Prescod-Weinstein, "Intersectionality as a Blueprint for Postcolonial Scientific Community Building"
- Justin Simien, Why did I name it 'Dear White People'?
- Julia Nguyen, Are You More Than Okay: The State of Mental Health in Tech in 2016

Week 11: Professional Ethics in CS & ML

> I would like for our industry to be more like librarians. Librarians have a sense of who they are as a profession. They have a central ethical code around patron privacy. The current Librarian of Congress fought John Ashcroft and was ridiculed by him for the idea that people have a right to read what they want to read without it being reported to the FBI. When you go to library school, you absorb this. If you violate it, you're shunned by your profession. And no one's bringing in Ukrainian librarians to circumvent it—it's not like they're going to offshore library science to get around patron privacy.
>
> You see this in other fields. Doctors say do no harm. Journalists—in theory, at least—are trying to speak truth to power. But we in the tech industry don't have anything like that. We need some kind of professional identity about who we are and why we do what we do. It can't just be about "moving fast and breaking things" or not being evil. We need an organization that takes collective action on behalf of its employees and ensures their voice is heard in major decisions affecting the lives of millions of people. Decisions that determine how data is collected, how it's stored, and what rights people have to it.
>
> *— from an interview with Maciej Cegłowski by Ben Tarnoff (full citation below)*

Required Readings *(as usual, most of these are on the shorter side)*

- Gift of Fire, Chapters 8 and 9
- Professional Codes of Ethics:
    - The Association for Computing Machinery maintains a Code of Ethics for computer science.
        - Read the original 1992 Code, and compare to the second draft of the proposed 2018 version. *Be prepared to discuss the differences.*
        - The process of revising a Code is very interesting; examine the annotated diff between versions 1 and 2 of the proposed revised Code.
        - In concert with the IEEE, the ACM also maintains a Software Engineering Code of Ethics.
        - Relevant additional readings about the ACM Code and its revision process *(optional but strongly suggested)*:
            - Brinkman, Flick, Gotterbarn, Miller, Vazansky, Wolf. 2017. Listening to Professional Voices: Draft 2 of the ACM Code of Ethics and Professional Conduct. Commun. of the ACM 60, 5 (May 2017), 105-111.
            - Wolf. 2016. The ACM code of ethics: a call to action. Commun. ACM 59, 12 (December 2016), 6-6.
            - Brinkman, Gotterbarn, Miller, and Wolf. 2016. Making a positive impact: updating the ACM code of ethics. Commun. ACM 59, 12 (December 2016), 7-13.
    - Sproat R. "Trump, Mercer, and why professional societies need Codes of Ethics." The Daily Kos, 3/25/2017
    - Other branches of engineering have much stricter professional certifications and standards, which include codes of behavior.

        - The Wikipedia's article on Regulation and licensure in engineering is a very good overview.
        - Also read about the Canadian Ritual of the Calling of the Engineer (and its American offshoot, the Order of the Engineer).
- Bill Sourour, The Code I'm Still Ashamed Of
- Mike Moteiro, Ethics and Paying Rent
- Quincy Larson, What do Uber, Volkswagen and Zenefits have in common? They all used hidden code to break the law.
- Moxie Marlinspike, A Saudi Arabia Telecom's Surveillance Pitch
- Ben Tarnoff, "Can engineers change Silicon Valley's political agenda?"

Recommended Readings

- Robert "Uncle Bob" Martin's "Programmer's Oath" and "Obligation of the Programmer"
- Panteli A, Stack J, Ramsay H. Gender and Professional Ethics in the IT Industry. Journal of Business Ethics. 1999;22(1):51–61.
- Berenbach B, Broy M. Professional and Ethical Dilemmas in Software Engineering. Computer. 2009 Jan;42(1):74–80.

Week 12: Fairness, Accountability, & Transparency in Machine Learning (FATML)

Required Readings (Note: both of these were originally presented at the 2016 FAT-ML workshop)

- Burrell J. How the machine “thinks”: Understanding opacity in machine learning algorithms. Big Data & Society. 2016;3(1):2053951715622512.
- Kleinberg JM, Mullainathan S, Raghavan M. Inherent Trade-Offs in the Fair Determination of Risk Scores. arXiv 1609.05807. 2016.
- Also check out the FAT-ML working group's "Principles for Accountable Algorithms and a Social Impact Statement for Algorithms".

Books of Note

- Rotenberg, Horwitz, & Scott, eds. (2015) Privacy in the Modern Age: The Search for Solutions. The New Press, New York.
- Nissenbaum H. (2010) Privacy in Context: Technology, Policy, and the Integrity of Social Life. Stanford University Press, Stanford CA.
- Bebeau MJ with Pimple KD, Muskavitch KMT, Borden SL, Smith DH (1995): Moral Reasoning in Scientific Research: Cases for Teaching and Assessment. Indiana University.

Organizations

- OHSU Office of Research Integrity

- HHS Office of Research Integrity
- Council for Big Data, Ethics, and Society
- Association of Internet Researchers
- Electronic Privacy Information Center

Useful Websites

- Responsible Data Forum, Hand-book of the Modern Development Specialist: Being, a Complete, Illustrated Guide to Responsible Data Usage, Manners, and General Deportment
- Geek Feminism Wiki
- Model View Culture's index of resources
- Dr. Chanda Prescod-Weinstein's reading lists on "Decolonising Science" and "U.S./Canadian Race & Racism" are fabulous.

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