Readings

Date	Topic	Required readings	Optional	Due
9/29	*Introduction*	• Allen Institute for AI (2021) • Bonde and Firenze (2013) • Gupta and Heath (2020) • Jiang (2021)	• D. Raji (2019)	
10/4	*Algorithmic decision making*	• ACLU of Washington (2021) • Kearns and Roth (2019) • Lum and Chowdhury (2021) • stabilityai (n.d.) • Baio (2022)		
10/6	*What is algorithmic bias?*	• Bembeneck, Nissan, and Obermeyer (2021) • Benjamin (2019) • Chowdhury (2021) • Vox (2021)	• Friedman and Nissenbaum (1996)	

Date	Topic	Required readings	Optional	Due
10/11	*Identifying algorithmic harms*	• Jeffries, Yin, and Mattu (2020) • Kirchner (2021) • Kirchner (2020) • Varner and Sankin (2020)		
10/13	*Algorithmic fairness*	• Feathers (2021) • Mitchell et al. (2021) • Smith (2021)		
10/18	*Ethics of data collection*	• McVean (2019) • Whitby (2020) • Onuoha (2020)	• Ochigame (2020)	
10/20	*Facial recognition*	• Buolamwini et al. (2020) • Hill and Krolik (2019) • Buolamwini and Gebru (2018) • MIT Media Lab (2018)	• Castelvecchi (2020) • Noorden (2020)	
10/25	*Criminal Justice*	• Angwin et al. (2016) • Hill (2020) • Lum and Isaac (2016) • O'Neill (2019)		
10/27	*Quantifying fairness*	• Chouldechova (2017) • Mitchell et al. (2021)	• Arvind Narayanan (2018)	

Date	Topic	Required readings	Optional	Due
11/1	*Quantifying fairness*	• Rudin, Wang, and Coker (2020) • Chouldechova (2020) • Jackson and Mendoza (2020)		
11/3	*Public algorithms*	• Crawford (2021) • Green (2019)		
11/8	*Private algorithms*	• Ingold and Soper (2016) • Raghavan and Barocas (2019)	• MIT Technology Review (2021)	
11/10	*Labor*	• Booth (2020) • Crawford (2021) • Gurley (2021) • The Financial Times (2020)		
11/15	*Welfare*	• Eubanks (2018) • Henriques-Gomes (2019) • Sudhir and Sunder (2020)	• Gilman (2020)	
11/17	*Healthcare*	• Chen et al. (2021) • Obermeyer et al. (2019)		
11/22	*Privacy*	• Mervis (2019) • Wezerek and Riper (2020) • Wolford (2018) • Wood et al. (2018)	•	
11/24		NO CLASS		

Date	Topic	Required readings	Optional	Due
11/29	*Paths forward*	• Green (2020) • Hooker (2021) • I. D. Raji and Buolamwini (2019) • Upchurch (2018)		
12/1	*Paths forward*	• Mullainathan (2019) • Campbell (2018) • Heilweil (2020) • NIckelsburg (2021) • Richardson (2019)		
12/6				Final Presentations
12/8				Final Presentations

ACLU of Washington. 2021. "Automated Decision Making Systems Are Making Some of the Most Important Life Decisions For You, but You Might Not Even Know It." https://www.aclu-wa.org/story/automated-decision-making-systems-are-making-some-most-important-life-decisions-you-you-might.

Allen Institute for AI. 2021. "Ask Delphi." https://delphi.allenai.org/.

Angwin, Julia, Jeff Larson, Surya Mattu, and Lauren Kirchner. 2016. "Machine Bias." https://www.propublica.org/article/machine-bias-risk-assessments-in-criminal-sentencing?token=jRdnwabwdw5HLiHY-R3nqWS5DOjEM7W-.

Arvind Narayanan. 2018. "Tutorial: 21 Fairness Definitions and Their Politics," March. https://www.youtube.com/watch?v=jIXIuYdnyyk.

Baio, Andy. 2022. "Exploring 12 Million of the 2.3 Billion Images Used to Train Stable Diffusion's Image Generator." https://waxy.org/2022/08/exploring-12-million-of-the-images-used-to-train-stable-diffusions-image-generator/.

Bembeneck, Emily, Rebecca Nissan, and Ziad Obermeyer. 2021. "To Stop Algorithmic Bias, We First Have to Define It." https://www.brookings.edu/research/to-stop-algorithmic-bias-we-first-have-to-define-it/.

Benjamin, Ruha. 2019. "Default Discrimination." In *Race After Technology: Abolitionist Tools for the New Jim Code*. Newark, UNITED KINGDOM: Polity Press. http://ebookcentral.proquest.com/lib/washington/detail.action?docID=5820427.

Bonde, Sheila, and Paul Firenze. 2013. "A Framework for Making Ethical Decisions." https://www.brown.edu/academics/science-and-technology-studies/framework-making-ethical-decisions.

Booth, Robert. 2020. "Uber Drivers to Launch Legal Bid to Uncover App's Algorithm." http://www.theguardian.com/technology/2020/jul/20/uber-drivers-to-launch-legal-bid-to-uncover-apps-algorithm.

Buolamwini, Joy, and Timnit Gebru. 2018. "Conference on Fairness, Accountability and Transparency." In, 77–91. PMLR. http://proceedings.mlr.press/v81/buolamwini18a.html.

Buolamwini, Joy, Vicente Ordóñez, Jamie Morgenstern, and Erik Learned-Miller. 2020. "Facial Recognition Technologies: A Primer," May. https://global-uploads.webflow.com/5e027ca188c99e3515b404b7/5ed1002058516c11edc66a14_FRTsPrimerMay2020.pdf.

Campbell, Alexia Fernández. 2018. "How Tech Employees Are Pushing Silicon Valley to Put Ethics Before Profit." *Vox*, October. https://www.vox.com/technology/2018/10/18/17989482/google-amazon-employee-ethics-contracts.

Castelvecchi, Davide. 2020. "Is Facial Recognition Too Biased to Be Let Loose?" *Nature* 587 (7834): 347–49. https://doi.org/10.1038/d41586-020-03186-4.

Chen, Irene Y., Emma Pierson, Sherri Rose, Shalmali Joshi, Kadija Ferryman, and Marzyeh Ghassemi. 2021. "Ethical Machine Learning in Healthcare." *Annual Review of Biomedical Data Science* 4 (1): null. https://doi.org/10.1146/annurev-biodatasci-092820-114757.

Chouldechova, Alexandra. 2017. "Fair Prediction with Disparate Impact: A Study of Bias in Recidivism Prediction Instruments." *Big Data* 5 (2): 153–63. https://doi.org/10.1089/big.2016.0047.

———. 2020. "Transparency and Simplicity in Criminal Risk Assessment." *Harvard Data Science Review* 2 (1). https://doi.org/10.1162/99608f92.b9343eec.

Chowdhury, Rumman. 2021. "Sharing Learnings about Our Image Cropping Algorithm." https://blog.twitter.com/engineering/en_us/topics/insights/2021/sharing-learnings-about-our-image-cropping-algorithm.

Crawford, Kate. 2021. "State." In, 181–209. Power, Politics, and the Planetary Costs of Artificial Intelligence. Yale University Press. https://doi.org/10.2307/j.ctv1ghv45t.9.

Eubanks, Virginia. 2018. "A Child Abuse Prediction Model Fails Poor Families." *Wired*, January. https://www.wired.com/story/excerpt-from-automating-inequality/.

Feathers, Todd. 2021. "Police Are Telling ShotSpotter to Alter Evidence From Gunshot-Detecting AI." https://www.vice.com/en/article/qj8xbq/police-are-telling-shotspotter-to-alter-evidence-from-gunshot-detecting-ai.

Friedman, Batya, and Helen Nissenbaum. 1996. "Bias in Computer Systems." *ACM Transactions on Information Systems* 14 (3): 330347. https://doi.org/10.1145/230538.230561.

Gilman, Michele. 2020. "Poverty Lawgorithms." https://datasociety.net/library/poverty-lawgorithms/.

Green, Ben. 2019. "The Innovative City: The Relationship Between Technical and Nontechnical Change in City Government." In *The Smart Enough City: Putting Technology in Its Place to Reclaim Our Urban Future*. https://direct.mit.edu/books/book/4204/chapter/172388/The-Innovative-City-The-Relationship-between.

———. 2020. "The False Promise of Risk Assessments: Epistemic Reform and the Limits of Fairness." In *Proceedings of the 2020 Conference on Fairness, Accountability, and Transparency*, 594–606. FAT* '20. New York, NY, USA: Association for Computing Machinery. https://doi.org/10.1145/3351095.3372869.

Gupta, Abhishek, and Victoria Heath. 2020. "AI Ethics Groups Are Repeating One of Society's Classic Mistakes." *MIT Technology Review*, September. https://www.technologyreview.com/2020/09/14/1008323/ai-ethics-representation-artificial-intelligence-opinion/.

Gurley, Lauren Kaori. 2021. "Amazon Drivers Are Instructed to Drive Recklessly to Meet Delivery Quotas." https://www.vice.com/en/article/xgxx54/amazon-drivers-are-instructed-to-drive-recklessly-to-meet-delivery-quotas.

Heilweil, Rebecca. 2020. "Facebook Is Taking a Hard Look at Racial Bias in Its Algorithms." *Vox*, July. https://www.vox.com/recode/2020/7/22/21334051/facebook-news-feed-instagram-algorithm-racial-bias-civil-rights-audit.

Henriques-Gomes, Luke. 2019. "The Automated System Leaving Welfare Recipients Cut Off with Nowhere to Turn." *The Guardian*, October. http://www.theguardian.com/technology/2019/oct/16/automated-messages-welfare-australia-system.

Hill, Kashmir. 2020. "Wrongfully Accused by an Algorithm." *The New York Times*, June. https://www.nytimes.com/2020/06/24/technology/facial-recognition-arrest.html.

Hill, Kashmir, and Aaron Krolik. 2019. "How Photos of Your Kids Are Powering Surveillance Technology." *The New York Times*, October. https://www.nytimes.com/interactive/2019/10/11/technology/flickr-facial-recognition.html.

Hooker, Sara. 2021. "Moving Beyond "Algorithmic Bias Is a Data Problem"." *Patterns* 2 (4). https://doi.org/10.1016/j.patter.2021.100241.

Ingold, David, and Spencer Soper. 2016. "Amazon Doesn't Consider the Race of Its Customers. Should It?" http://www.bloomberg.com/graphics/2016-amazon-same-day/.

Jackson, Eugenie, and Christina Mendoza. 2020. "Setting the Record Straight: What the COMPAS Core Risk and Need Assessment Is and Is Not." *Harvard Data Science Review* 2 (1). https://doi.org/10.1162/99608f92.1b3dadaa.

Jeffries, Adrianne, Leon Yin, and Surya Mattu. 2020. "Swinging the Vote?" *The Markup*, February. https://themarkup.org/google-the-giant/2020/02/26/wheres-my-email.

Jiang, Liwei. 2021. "Towards Machine Ethics and Norms." https://medium.com/ai2-blog/towards-machine-ethics-and-norms-d64f2bdde6a3.

Kearns, Michael, and Aaron Roth. 2019. "Introduction." In *The Ethical Algorithm: The Science of Socially Aware Algorithm Design*. Oxford, UNITED STATES: Oxford University Press USA - OSO. http://ebookcentral.proquest.com/lib/washington/detail.action?docID=5905172.

Kirchner, Lauren. 2020. "When Zombie Data Costs You a Home." *The Markup*, October. https://themarkup.org/locked-out/2020/10/06/zombie-criminal-records-housing-background-checks.

———. 2021. "Powerful DNA Software Used in Hundreds of Criminal Cases Faces New Scrutiny." *The Markup*, March. https://themarkup.org/news/2021/03/09/powerful-dna-software-used-in-hundreds-of-criminal-cases-faces-new-scrutiny.

Lum, Kristian, and Rumman Chowdhury. 2021. "What Is an 'Algorithm'? It Depends Whom You Ask." *MIT Technology Review*, February. https://www.technologyreview.com/2021/02/26/1020007/what-is-an-algorithm/.

Lum, Kristian, and William Isaac. 2016. "To Predict and Serve?" *Significance* 13 (5): 14–19. https://doi.org/https://doi.org/10.1111/j.1740-9713.2016.00960.x.

McVean, Ada. 2019. "40 Years of Human Experimentation in America: The Tuskegee Study." https://www.mcgill.ca/oss/article/history/40-years-human-experimentation-america-tuskegee-study.

Mervis, Jeffery. 2019. "Can a Set of Equations Keep U.S. Census Data Private?" *ScienceInsider*. https://www.science.org/content/article/can-set-equations-keep-us-census-data-private.

MIT Media Lab. 2018. "Gender Shades," February. https://www.youtube.com/watch?v=TWWsW1w-BVo.

MIT Technology Review. 2021. "Podcast: In Machines We Trust - Hired by an Algorithm," June. https://www.youtube.com/watch?v=ztcVB_zh_M0.

Mitchell, Shira, Eric Potash, Solon Barocas, Alexander D'Amour, and Kristian Lum. 2021. "Algorithmic Fairness: Choices, Assumptions, and Definitions." *Annual Review of Statistics and Its Application* 8 (1): null. https://doi.org/10.1146/annurev-statistics-042720-125902.

Mullainathan, Sendhil. 2019. "Biased Algorithms Are Easier to Fix Than Biased People." *The New York Times*, December. https://www.nytimes.com/2019/12/06/business/algorithm-bias-fix.html.

NIckelsburg, Monica. 2021. "Washington State Lawmakers Seek to Ban Government from Using Discriminatory AI Tech." *GeekWire*, February. https://www.geekwire.com/2021/washington-state-lawmakers-seek-ban-government-using-ai-tech-discriminates/.

Noorden, Richard Van. 2020. "The Ethical Questions That Haunt Facial-Recognition Research." *Nature* 587 (7834): 354–58. https://doi.org/10.1038/d41586-020-03187-3.

O'Neill, James. 2019. "How Facial Recognition Makes You Safer." *The New York Times*, June. https://www.nytimes.com/2019/06/09/opinion/facial-recognition-police-new-york-city.html.

Obermeyer, Ziad, Brian Powers, Christine Vogeli, and Sendhil Mullainathan. 2019. "Dissecting Racial Bias in an Algorithm Used to Manage the Health of Populations." *Science* 366 (6464): 447–53. https://doi.org/10.1126/science.aax2342.

Ochigame, Rodrigo. 2020. "The Long History of Algorithmic Fairness." https://phenomenalworld.org/analysis/long-history-algorithmic-fairness.

Onuoha, Mimi. 2020. "When Proof Is Not Enough." https://fivethirtyeight.com/features/when-proof-is-not-enough/.

Raghavan, Manish, and Solon Barocas. 2019. "Challenges for Mitigating Bias in Algorithmic Hiring." https://www.brookings.edu/research/challenges-for-mitigating-bias-in-algorithmic-hiring/.

Raji, Deborah. 2019. "That's Not Fair!" *XRDS: Crossroads, The ACM Magazine for Students* 25 (3): 44–48. https://doi.org/10.1145/3313127.

Raji, Inioluwa Deborah, and Joy Buolamwini. 2019. "Actionable Auditing: Investigating the

Impact of Publicly Naming Biased Performance Results of Commercial AI Products." In, 429435. AIES '19. New York, NY, USA: Association for Computing Machinery. https://doi.org/10.1145/3306618.3314244.

Richardson, Rashida. 2019. "Confronting Black Boxes: A Shadow Report of the New York City Automated Decision System Task Force." https://ainowinstitute.org/ads-shadowreport-2019.html.

Rudin, Cynthia, Caroline Wang, and Beau Coker. 2020. "The Age of Secrecy and Unfairness in Recidivism Prediction." *Harvard Data Science Review* 2 (1). https://doi.org/10.1162/99608f92.6ed64b30.

Smith, Ben. 2021. "How TikTok Reads Your Mind." *The New York Times*, December. https://www.nytimes.com/2021/12/05/business/media/tiktok-algorithm.html.

stabilityai. n.d. "Stable Diffusion - a Hugging Face Space." https://huggingface.co/spaces/stabilityai/stable-diffusion.

Sudhir, K., and Shyam Sunder. 2020. "What Happens When a Billion Identities Are Digitized?" https://insights.som.yale.edu/insights/what-happens-when-billion-identities-are-digitized.

The Financial Times. 2020. "The Uber Game." https://ig.ft.com/uber-game.

Upchurch, Tom. 2018. "To Work for Society, Data Scientists Need a Hippocratic Oath with Teeth." *Wired UK*. https://www.wired.co.uk/article/data-ai-ethics-hippocratic-oath-cathy-o-neil-weapons-of-math-destruction.

Varner, Maddy, and Aaron Sankin. 2020. "Suckers List: How Allstate's Secret Auto Insurance Algorithm Squeezes Big Spenders." *The Markup*, February. https://themarkup.org/allstates-algorithm/2020/02/25/car-insurance-suckers-list.

Vox. 2021. "Are We Automating Racism?" March. https://www.youtube.com/watch?v=Ok5sKLXqynQ.

Wezerek, Gus, and David Van Riper. 2020. "Opinion | Changes to the Census Could Make Small Towns Disappear." *The New York Times*, February. https://www.nytimes.com/interactive/2020/02/06/opinion/census-algorithm-privacy.html.

Whitby, Andrew. 2020. "A Brief History of the Census—and How Covid-19 Could Change It." *Wired*, April. https://www.wired.com/story/brief-history-census-how-covid-19-could-change-it/.

Wolford, Ben. 2018. "What Is GDPR, the EU's New Data Protection Law?" https://gdpr.eu/what-is-gdpr/.

Wood, Alexandra, Micah Altman, Aaron Bembenek, Mark Bun, Marco Gaboardi, James Honaker, Kobbi Nissim, David O'Brien, Thomas Steinke, and Salil Vadhan. 2018. "Differential Privacy: A Primer for a Non-Technical Audience." *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.3338027.