

Law and Artificial Intelligence

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This reading group will explore topics at the intersection of Law and Artificial Intelligence. Machine learning systems, algorithms, and other AI applications are transforming vital aspects of the economy and society—they influence what we see, hear, and often think. Decisions around when loans are approved, which job candidates are reviewed, and whether criminal defendants are deprived of their liberty are now often made by machines. The materials and discussions in this reading group will ask students to grapple with how AI is impacting our lives now and into the future. We will examine how these technologies will interact with, challenge, and shape law and society going forward. This reading group provides a multidisciplinary survey of some of the key issues in space, and will immerse students in the on-going discourse between technological development and the law.

This reading group will be offered for one unit of credit (C/F). According to YLS guidelines, members must attend 750 minutes (12.5 hours) to obtain the credit. The reading group will meet for eight two-hour sessions to allow each member to miss one meeting if needed.

Week 1. Introduction/Foundation (78 pgs.)

Russell, Stuart (2016) "Q&A: The Future of Artificial Intelligence." University of Berkeley.
<http://people.eecs.berkeley.edu/~russell/temp/q-and-a.html>

White House OSTP, *Preparing for the Future of Artificial Intelligence* (2016), Executive Summary & Introduction p. 1-11, Conclusion & Recommendations p. 39-42
https://obamawhitehouse.archives.gov/sites/default/files/whitehouse_files/microsites/ostp/NSTC/preparing_for_the_future_of_ai.pdf.

Ryan Calo, *Artificial Intelligence Policy: A Primer and Roadmap* (2017)
<https://ssrn.com/abstract=3015350>

Jack M. Balkin, *The Three Laws of Robotics in the Age of Big Data*, 78 Ohio St. L.J. (2017), Part IV-VIII p. 17-45
<https://ssrn.com/abstract=2890965>

- **Optional Resources**

P.M. Asaro, *Robots and Responsibility from a Legal Perspective* (2007),
<http://www.peterasaro.org/writing/ASARO%20Legal%20Perspective.pdf>.

Future of Life Institute (2015), "A survey of research questions for robust and beneficial AI."
http://futureoflife.org/static/data/documents/research_survey.pdf

Technical Introduction to AI: Stuart Russell & Peter Norvig, *Artificial Intelligence: A Modern Approach* §§ 1.1-1.4, § 26 (3rd. Edition 2010)

Week 2. Bias, Transparency, and Accountability (80 pgs.)

Kate Crawford *The Hidden Biases of Big Data*, Harvard Business Review, April 1 2013.

http://blogs.hbr.org/cs/2013/04/the_hidden_biases_in_big_data.html

Batya Friedman & Helen Nissenbaum, *Bias in computer systems*, ACM Transactions on Information Systems (1996)

<https://dl.acm.org/citation.cfm?doid=230538.230561>

Paul de Laat, *Big data and algorithmic decision-making: can transparency restore accountability?* 47 SIGCAS Computers and Society 39 (2017).

<https://dl.acm.org/citation.cfm?doid=3144592.3144597>

Bryce Goodman & Seth Flaxman, *European Union regulations on algorithmic decision-making and a "right to explanation"* ICML Workshop on Human Interpretability in Machine Learning (2016).

<https://arxiv.org/abs/1606.08813>

Joshua A. Kroll et al., *Accountable Algorithms*, 165 U. Pa. L. Rev. 633 (2017), Introduction & Part I. A. p. 3-13, Part II. A-B. p. 22-36, Part IV. p. 56-66.

<https://ssrn.com/abstract=2765268>

- **Optional Resources**

Robert H. Sloan & Richard Warner, *When Is an Algorithm Transparent?: Predictive Analytics, Privacy, and Public Policy* (October 12, 2017).

<https://ssrn.com/abstract=3051588>

Cliff Kuang, *Can A.I. Be Taught to Explain Itself?*, The New York Times Magazine (Nov. 21, 2017),

www.nytimes.com/2017/11/21/magazine/can-ai-be-taught-to-explain-itself.html?smid=tw-share&r=1.

Week 3. Discrimination, Manipulation, and Due Process (84 pgs.)

Danielle Keats Citron & Frank A. Pasquale, *The Scored Society: Due Process for Automated Predictions*, 89 Wash. L. Rev. 1 (2014)

<https://ssrn.com/abstract=2376209>

Solon Barocas and Andrew D. Selbst, *Big Data's Disparate Impact*, 104 Calif. L. Rev. 671 (2016), Introduction p. 673-76, Part I p. 677-93 (skim), Part II p. 694-713

<https://ssrn.com/abstract=2477899>

Anupam Chander, *The Racist Algorithm?* 115 Michigan Law Review (Forthcoming 2017)

<https://ssrn.com/abstract=2795203>.

- **Optional Resources**

FairML - Auditing Black-Box Predictive Models: <https://github.com/adebayoj/fairml>

Christian Sandvig et al., *Auditing Algorithms: Research Methods for Detecting Discrimination on Internet Platforms*, Data and Discrimination: Converting Critical Concerns into Productive Inquiry Conference (2014).

<https://pdfs.semanticscholar.org/b722/7cbd34766655dea10d0437ab10df3a127396.pdf>

Tal Z. Zarsky, *Understanding Discrimination in the Scored Society* 89 Wash. L. Rev. 1375 (2014).

<https://ssrn.com/abstract=2550248>

Week 4. Internet of Things (84 pgs.)

Eric A. Fischer, *The Internet of Things: Frequently Asked Questions* (2015) (skim)

<https://digitalstrategy.nl/wp-content/uploads/The-Internet-of-Things-Frequently-Asked-Questions-by-CRS-Oct-2015.pdf>.

Steven I. Friedland, *Drinking from the Fire Hose: How Massive Self-Surveillance from the Internet of Things Is Changing the Face of Privacy*, 119 W. Va. L. Rev. 891 (2017).

<https://ssrn.com/abstract=3019416>

Vagle, Jeffrey L., *Cybersecurity and Moral Hazard* (October 21, 2017).

<https://ssrn.com/abstract=3055231>

Butler, Alan, *Products Liability and the Internet of (Insecure) Things: Should Manufacturers Be Liable for Damage Caused by Hacked Devices?* (April 19, 2017). University of Michigan Journal of Law Reform, Forthcoming.

<https://ssrn.com/abstract=2955317>

- **Optional Resources**

Marie-Helen Maras, *Internet of things: Security and privacy implications*, 5 *International Data Privacy Law* 99 (2015)

<http://dx.doi.org/10.1093/idpl/ipv004>

Hillary Brill & Scott Jones, *Little Things and Big Challenges: Information Privacy and the Internet of Things*, 66 *Am. U. L. Rev.* 1183 (2017)

<http://heinonline.org/HOL/LandingPage?handle=hein.journals/aulr66&div=37&id=&page=>

Week 5. Applications of AI to Criminal Justice (84 pgs.)

Lauren Kirchner, Julia Angwin, Jeff Larson & Surya Mattu, *Machine Bias: There's Software Used Across the Country to Predict Future Criminals. And It's Biased Against Blacks*, ProPublica, 2016

<https://www.propublica.org/article/machine-bias-risk-assessments-in-criminal-sentencing>

Data & Civil Rights Conference - Courts and Predictive Algorithms Session

- Primer: https://www.datacivilrights.org/pubs/2015-1027/Courts_and_Predictive_Algorithms.pdf
- Summary: https://www.datacivilrights.org/pubs/2015-1027/Summary_Courts_and_Data.pdf

Dawinder S. Sidhu, *Moneyball Sentencing*, 56 B.C. L. Rev. 671 (2015), Introduction p. 671-676, Parts II-III p. 685-717
<http://lawdigitalcommons.bc.edu/cgi/viewcontent.cgi?article=3427&context=bclr>

John L. Koepke & David G. Robinson, *Zombie Predictions and the Future of Bail Reform* (September 22, 2017), Part III p. 28-36, Part V & Conclusion p. 55-63
<https://ssrn.com/abstract=3041622>

- **Optional Resources**

ProPublica COMPAS Full Dataset: <https://github.com/propublica/compas-analysis>
ProPublica COMPAS iPython Notebook Analysis: <https://github.com/propublica/compas-analysis/blob/master/Compas%20Analysis.ipynb>

Criminal Law – Sentencing Guidelines – Wisconsin Supreme Court Requires Warning before Use of Algorithmic Risk Assessments in Sentencing -State v. Loomis 881 N.W.2d 749 (Wis. 2016), 130 Harv. L. Rev. 1530 (2017).
http://www.heinonline.org/HOL/Page?handle=hein.journals/hlr130&div=87&start_page=1530&collection=journals&set_as_cursor=0&men_tab=srchresults.

Alexandra Chouldechova, *Fair Prediction with Disparate Impact: A Study of Bias in Recidivism Prediction Instruments*, arXiv:1610.07524 (2016)
<https://arxiv.org/abs/1703.00056>

Week 6. AI and Elections (100 pgs.)

Jonathan L. Zittrain, *Engineering an Election*, 127 Harv. L. Rev. F. 335 (2014).
http://cdn.harvardlawreview.org/wp-content/uploads/2014/06/vol127_Symposium_Zittrain.pdf

Samuel C. Woolley and Douglas R. Guilbeault, *Computational Propaganda in the United States of America: Manufacturing Consensus Online*, Computational Propaganda Research Project, University of Oxford (2017).
<http://comprop.oii.ox.ac.uk/wp-content/uploads/sites/89/2017/06/Comprop-USA.pdf>

Dirk Helbing et. al., *Will Democracy Survive Big Data and Artificial Intelligence?* Scientific American (2017)
https://www.bsfrey.ch/articles/D_283_2017.pdf

Hunt Allcott & Matthew Gentzkow, *Social Media and Fake News in the 2016 Election*, 31 J. of Econ. Perspectives 211(2017)
<http://www.nber.org/papers/w23089.pdf>

- **Optional Resources**

Samantha Bradshaw and Philip N. Howard, *Troops, Trolls and Troublemakers: A Global Inventory of Organized Social Media Manipulation*, Computational Propaganda Research Project, University of Oxford (2017)

<http://comprop.oii.ox.ac.uk/wp-content/uploads/sites/89/2017/07/Troops-Trolls-and-Troublemakers.pdf>.

Vyacheslav Polonskil, *Artificial Intelligence Has the Power to Destroy or Save Democracy*, Council on Foreign Relations (Aug. 7, 2017).

<https://www.cfr.org/blog/artificial-intelligence-has-power-destroy-or-save-democracy>.

Week 7. AI and Labor (86 pgs.)

Martin Ford, *The Rise of the Robots: Technology and the Threat of a Jobless Future* (2016), Introduction p. ix-xviii.

https://www.uc.pt/feuc/citcoimbra/Martin_Ford-Rise_of_the_Robots

McKinsey. Jobs Lost, Jobs Gained: Workforce Transitions In a time of Automation (December 2017), Summary & Part 1 p. 1-31, Part 6, 123-126.

<https://www.mckinsey.com/~media/mckinsey/global%20themes/future%20of%20organizations/what%20the%20future%20of%20work%20will%20mean%20for%20jobs%20skills%20and%20wages/jobs-lost-jobs-gained-full-report.ashx>.

Erik Brynjolfsson and Andrew McAfee, *Human Work in the Robotic Future: Policy for the Age of Automation*, Foreign Affairs, July/August 2016

<https://www.foreignaffairs.com/articles/2016-06-13/human-work-robotic-future>

Abbott, Ryan and Bogenschneider, Bret N., Should Robots Pay Taxes? Tax Policy in the Age of Automation (March 13, 2017). Harvard Law & Policy Review, Forthcoming.

<https://ssrn.com/abstract=2932483>

- **Optional Resources**

Daron Acemoglu & Pascual Restrepo, *Robots and Jobs: Evidence from Us Labor Markets* (MIT Department of Economics Working Paper No. 17-04, March 2017), p. 1-5, 35-37

<https://ssrn.com/abstract=2940245>

Osonde A. Osoba & William Welser IV, *The Risk of Artificial Intelligence to Security and the Future of Work*, p. 8-13, RAND,

https://www.rand.org/pubs/perspectives/PE237.html?adbsc=social_20171206_1991411&adbid=938273048679006208&adbpl=tw&adbpr=22545453.

Week 8. AI, National Security and War (89 pgs.)

Harvard Kennedy School, *Artificial Intelligence and National Security* (2017), Part 1 p. 12-41, Part 3 p. 58-69

<https://www.belfercenter.org/sites/default/files/files/publication/AI%20NatSec%20-%20final.pdf>

Autonomous Weapons: an open letter from AI & Robotics Researchers
<https://futureoflife.org/open-letter-autonomous-weapons/>

Rebecca Crootof, *The Killer Robots Are Here: Legal and Policy Implications*, 36 *Cardozo L. Rev.* 1837 (2015), Introduction p. 1839-43, Part I. D., Part II-IV, Conclusion p. 1863-1903
<https://ssrn.com/abstract=2534567>

- **Optional Resources**

M. L. Cummings, *Artificial Intelligence and the Future of Warfare*, International Security Department and US and the Americas Programme (2017).
<https://pdfs.semanticscholar.org/1833/82618461d9150962e458cb4032956795c25f.pdf>.

Tom Simonite, *AI Could Revolutionize War as much as Nukes*, *Wired* (Jul. 19, 2017).
<https://www.wired.com/story/ai-could-revolutionize-war-as-much-as-nukes/>.

Gregory C. Allen, *China's Artificial Intelligence Strategy Poses a Credible Threat to U.S. Tech Leadership*, Council on Foreign Relations, (Dec. 4, 2017).
<https://www.cfr.org/blog/chinas-artificial-intelligence-strategy-poses-credible-threat-us-tech-leadership>