人工智慧法律與政策專題研究

ARTIFICIAL INTELLIGENCE LAW & POLICY

Syllabus – Spring 2019
Fridays 10:10-12:00
TSMC 832

Prof. Ching-Fu Lin
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OFFICE HOURS

My formal office hours are Mondays from 15:00 to 17:00. Please email me in advance I can make sure to be in my office when you arrive. If you would like to set a different time to meet, just let me know.

COURSE DESCRIPTION

The future is now. We are entering a new world of Artificial Intelligence (AI). Rapid developments of technologies have transformed AI from academic research projects to emerging forces that can shape the ways in which individuals, business organizations, and governments interact. This seminar (whose inception in 2017 marked the first of its kind in Taiwan) explores many of the legal, social, and political implications of the rise in AI, robots, algorithms, and brain-machine interface. Through the assigned readings and weekly discussion, this Seminar seeks to guide students in identifying the promises and perils of AI and in mapping critical challenges facing users, lawyers, engineers, and policymakers across the globe. Besides a general background of AI, the course will focus on, more specifically, the values and ethics of AI, regulatory design and automated vehicles, autonomous weapon systems and international humanitarian law, algorithmic bias and justice, surveillance and social control, and other problems of accountability, transparency. While other governance issues are of no less importance in the modern society (such as automation and labor, ownership and antitrust, data and privacy protection, and AI/robotic agent personhood), the course is not able to cover all of them within a limited timeframe.

* *This course is instructed in English*.

ASSIGNMENTS AND GRADES

The goal of the seminar is for all of us to explore and theorize about legal and policy issues regarding the development and application of artificial intelligence from an interdisciplinary perspective. For this to work, all the students are expected to finish the assigned readings before class, come to the seminar with adequate preparation, and actively engage in discussion. All class readings are accessible at https://goo.gl/mpznyk.

There is no mid-term or final exam. The grades will be based on the following two (2) criteria.

✧ Reaction Papers: Each student shall submit six (6) reactions paper throughout the semester. A reaction paper is NOT a summary of the readings. Rather, a reaction papers should include your comments and critiques on a specific reading assignment (*before* the class discusses it) and analyze how the work fits into the core themes of the seminar. Each reactions paper should be around 500-750 words, and will be due the *Wednesday before class by noon* (those submitted after the deadline will not be graded). Please email me and copy the TA your reaction papers. You are free to submit more than six reactions papers and select the best six for grading consideration. Reaction papers will count for 60% of your grade.

✧ Class Participation: Active class participation is required. Ideally, everyone will have well-thought-out comments/questions every class meeting. Class participation (which may be in the form of a roundtable discussion, brainstorming session, or informal dialogue) constitutes an important part of the seminar and counts for 40% of your grade.

* Auditors who commit to fulfill the above two criteria are welcome to sit in the class.

USEFUL LINKS/INFORMATION

✧ Berkman Klein Center for internet & Society, https://cyber.harvard.edu/

✧ Stanford Center for Legal Informatics (CodeX), https://law.stanford.edu/codex-the-stanford-center-for-legal-informatics/

✧ AI Now Institute at New York University, https://ainowinstitute.org/

✧ MIT Media Lab, https://www.media.mit.edu/courses/the-ethics-and-governance-of-artificial-intelligence/

✧ Alan Turing Institute, https://www.turing.ac.uk/

✧ Oxford Internet Institute, https://www.oii.ox.ac.uk/

✧ Digital Asia Hub, https://www.digitalasiahub.org/

✧ Tencent Research Institute, http://www.tisi.org/

Date	Topics & Readings
2/22	**CLASS INTRODUCTION**
3/1	**PEACE MEMORIAL DAY – NO CLASS**
3/8	**GENERAL BACKGROUND (I)** o AI Now Institute at New York University, *AI Now Report 2018* (December, 2018), pp. 10-43. o Peter Stone et al., *Artificial Intelligence and Life in 2030: One Hundred Year Study on Artificial Intelligence* (September, 2016), pp. 12-41. o Ryan Calo, *Artificial Intelligence and Policy: A Roadmap* (August, 2017). [optional] o Thomas Burri, *Machine Learning and the Law: Five Theses*, Machine Learning and the Law Conference (2017). [optional]
3/15	**GENERAL BACKGROUND (II)** o MAX TEGMARK, LIFE 3.0: BEING HUMAN IN THE AGE OF ARTIFICIAL INTELLIGENCE (2017), pp. 82-133. o David C. Vladeck, *Machines without Principles: Liability Rules and Artificial Intelligence*, 89 WASH. L. REV. 117 (2014), pp. 117-50. o Jenna Burrell, *How the Machine "Thinks": Understanding Opacity in Machine Learning Algorithms*, BIG DATA & SOCIETY 1 (January-June, 2016), pp. 1-10. o GARY SMITH, THE AI DELUSION (2018), PP. 207-33. [optional] o MAX TEGMARK, LIFE 3.0: BEING HUMAN IN THE AGE OF ARTIFICIAL INTELLIGENCE (2017), pp. 22-48. [optional]
3/22	**GENERAL BACKGROUND (III)** o Gregory N. Mandel, *Regulating Emerging Technology*, 1 LAW, INNOVATION & TECH. 75 (2009), pp. 75-91. o Matthew U. Scherer, *Regulating Artificial Intelligence Systems: Risks, Challenges, Competences, and Strategies,* 29(2) HARV. J.L. & TECH. 353 (2016), pp. 353-76. o Anupam Chander, *The Racist Algorithm?*, 115(6) MICH. L. REV. 1023 (2017), pp. 1023-45. [optional] o Roger Brownsword, *So What Does the World Need Now? Reflections on Regulating Technologies*, *in* REGULATING TECHNOLOGIES: LEGAL FUTURES, REGULATORY FRAMES, AND TECHNOLOGICAL FIXES 23 (Roger Brownsword & Karen Yeung eds., 2008), pp. 23-48. [optional]
3/29	**AUTOMATED VEHICLE AND REGULATORY DESIGN (I)** o MIT Media Lab, *Moral Machine*: http://moralmachine.mit.edu/ (**please try this "trolley problem" scenario/dilemma platform before class).

** Subject to change by the instructor.

	o Deloitte Insights, *Forces of Change: The Future of Mobility* (2017), pp. 2-9.
	o Allen & Overy LLP, *Autonomous and Connected Vehicles: Navigating the Legal Issues* (2017), pp. 2-17.
	o Bryan Casey, *Amoral Machines, or: How Roboticists Can Learn to Stop Worrying and Love the Law*, 111 Nw. U. L. Rev. 231 (2017), pp. 231-50.
	o Karen Yeung, *Towards an Understanding of Regulation by Design*, in REGULATING TECHNOLOGIES: LEGAL FUTURES, REGULATORY FRAMES, AND TECHNOLOGICAL FIXES 79 (Roger Brownsword & Karen Yeung eds., 2008), pp. 79-107. [optional]
	o Amitai Etzioni and Oren Etzioni, *AI Assisted Ethics*, 18(2) ETHICS & INFO. TECH.149 (2016), pp. 149-156. [optional]
4/5	**CHING MING FESTIVAL (TOMB-SWEEPING DAY) – NO CLASS**
4/12	**AUTOMATED VEHICLE AND REGULATORY DESIGN (II)**
	o Edmond Awad et al., *The Moral Machine Experiment*, 563 NATURE 59 (2018), pp. 59-64.
	o Andrea Renda, *Ethics, Algorithms and Self-Driving Cars: A CSI of the "Trolley Problem*, CEPS Policy Brief (January 2018), pp. 1-15.
	o Jason Millar, *Ethics Settings for Autonomous Vehicles*, in ROBOT ETHICS 2.0: FROM AUTONOMOUS CARS TO ARTIFICIAL INTELLIGENCE 20 (Patrick Lin et al. eds, 2017), pp. 20-32.
	o Jeffrey K. Gurney, *Imputing Driverhood: Applying a Reasonable Driver Standard to Accidents Caused by Autonomous Vehicles*, in ROBOT ETHICS 2.0: FROM AUTONOMOUS CARS TO ARTIFICIAL INTELLIGENCE 51 (Patrick Lin et al. eds, 2017), pp. 51-62.
	o Anjanette Raymond et al., *Building a Better HAL 9000: Algorithms, the Market, and the Need to Prevent the Ingraining of Bias*, Nw. J. TECH. & INTELL. PROP. (2017). [optional]
	o Federal Ministry of Transport and Digital Infrastructure (Germany), *Ethics Commission Report, Automated and Connected Driving* (June 2017). [optional]
4/19	**AUTONOMOUS WEAPON SYSTEMS AND INTERNATIONAL LAW**
	o Kenneth Anderson & Matthew C. Waxman, *Law and Ethics for Autonomous Weapon Systems: Why a Ban Won't Work and How the Laws of War Can*, Columbia Public Law Research Paper 13-351 (2013), pp. 1-27.
	o International Committee of the Red Cross (ICRC), *Views of the ICRC on Autonomous Weapons System*, Convention on Certain Conventional Weapons (CCW), Meeting of Experts on Lethal Autonomous Weapons Systems (LAWS), (April 11, 2016), pp. 1-6.
	o [Names Redacted], *Lethal Autonomous Weapon Systems: Issue for Congress*, Congressional Research Service (April 14, 2016), pp. 1-26.
	o Neil Davison, *A Legal Perspective: Autonomous Weapon Systems under International Humanitarian Law*, UNODA Occasional Papers No. 30 (2017), pp. 1-18. [optional]
	o Alan L. Schuller, *At the Crossroads of Control: The Intersection of Artificial Intelligence in Autonomous Weapons Systems with International Humanitarian Law*, 8 HARV. NAT'L SECURITY J. 379 (2017), pp. 382-425. [optional]
	o Mary L. Cummings, *Artificial Intelligence and the Future of Warfare*, Chatham House (January, 2017). [optional]

	o United States Department of Defense, *Directive 3000.09* (November 21, 2012; Incorporating Change 1, May 8, 2017). [optional] o Nehal Bhuta et al., *Present Futures: Concluding Reflections and Open Questions on Autonomous Weapons Systems, in* AUTONOMOUS WEAPONS SYSTEMS: LAWS, ETHICS, POLICY 347 (2016), pp. 347-83. [optional]
4/26	**INVITED TALK** (Tentative Topic: AI & Intellectual Property Rights Regimes) o Kalin Hristov, *Artificial Intelligence and the Copyright Dilemma*, 57(3) IDEA: THE IP LAW REVIEW 431 (2017), pp. 431-54. o Jessica Fjeld & Mason Kortz, *A Legal Anatomy of AI-generated Art: Part I*, HARV. J.L. & TECH. DIGEST (November 21, 2017), pp. 1-7. [optional] o Further readings to be assigned by the guest speaker.
5/3	**MIDTERM – NO CLASS**
5/10	**ALGORITHMIC BIAS AND THE CRIMINAL JUSTICE SYSTEM (I)** o *State v. Loomis*, 881 N.W.2d 749 (Wis. 2016). o *Loomis v. Wisconsin*, 137 S.Ct. 2290 (2017). o Julia Angwin et al., *Machine Bias*, PROPUBLICA (May 23, 2016), pp. 1-12. o Frank Pasquale, *Secret Algorithms Threaten the Rule of Law*, MIT TECHNOLOGY REVIEW (June 2017), pp. 1-4. o Ellora Israni, *Algorithmic Due Process: Mistaken Accountability and Attribution in State v. Loomis*, HARV. J.L. & TECH. DIGEST (August 31, 2017), pp. 1-3. o Solicitor General's Amicus Brief, No. 16-6387 (Petition for a Writ of Certiorari to the Supreme Court of Wisconsin), pp. 1-23. [optional]
5/17	**ALGORITHMIC BIAS AND THE CRIMINAL JUSTICE SYSTEM (II)** o Katherine Freeman, *Algorithmic Injustice: How the Wisconsin Supreme Court Failed to Protect Due Process Rights in State v. Loomis*, 18 N.C. J. L. & TECH. 75 (2016), pp. 76-106. o Han-Wei Liu et al., *Beyond State v. Loomis: Artificial Intelligence, Government Algorithmization, and Accountability*, INT'L J. L. & INFO. TECH. (forthcoming), pp.1-23. o Julia Dressel & Hany Farid, *The Accuracy, Fairness, and Limits of Predicting Recidivism*, 4(1) SCIENCE ADVANCES (January 17, 2018), pp. 1-5. o *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 HAR. L. REV. 1530 (2017), pp. 1530-37. [optional] o Andrea L. Roth, *Machine Testimony*, 126 YALE L.J. 1972 (2017), pp. 1974-2053. [optional]
5/24	**DATA-DRIVEN SOCIAL CONTROL AND RULE OF LAW** o Yu-Jie Chen et al., *"Rule of Trust": The Power and Perils of China's Social Credit Megaproject*, 32(1) COLUM. J. ASIAN L. (forthcoming), pp. 1-34. o Danielle Keats Citron & Frank Pasquale, *The Scored Society: Due Process for Automated*

	Predictions, 89(1) WASH. L. REV. 1 (2014), pp. 1-33.
	o VIRGINIA EUBANKS, AUTOMATING INEQUALITY: HOW HIGH-TECH TOOLS PROFILE, POLICE, AND PUNISH THE POOR (2018). [optional]
	o FRANK PASQUALE, THE BLACK BOX SOCIETY: THE SECRET ALGORITHMS THAT CONTROL MONEY AND INFORMATION (2015). [optional]
5/31	**GOVERNANCE, ACCOUNTABILITY, AND TRANSPARENCY: EXISTING PROPOSALS** o Joshua A. Kroll et al., *Accountable Algorithms*, 165 U. PA. L. REV. 633 (2017), pp. 656-94. o Mike Ananny & Kate Crawford, *Seeing without Knowing: Limitations of the Transparency Ideal and Its Application to Algorithmic Accountability*, NEW MEDIA & SOCIETY 1 (2016), pp. 1-13. o Iyad Rahwan, *Society-in-the-Loop: Programming the Algorithmic Social Contract*, ETHICS OF INFO. TECH. (forthcoming), pp. 1-9. o Robert Brauneis & Ellen Goodman, *Algorithmic Transparency for the Smart City*, 20 YALE J.L. & TECH. 103 (2018), pp. 115-36. o Finale Doshi-Velez & Mason Kortz, *Accountability of AI Under the Law: The Role of Explanation*, Working Group on Explanation and the Law, Berkman Klein Center Working Paper (2017), pp. 1-12. o Sandra Wachter et al., T*ransparent, Explainable, and Accountable AI for Robotics*, 2 SCIENCE ROBOTICS (2017), pp. 1-2 o 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), pp. 1-7. o Jack M. Balkin, *The Three Laws of Robotics in the Age of Big Data*, 78 OHIO STATE L.J. (2017). [optional] o Cass R. Sunstein, *Algorithms, Correcting Biases*, Preliminary Draft 12/12/18 for Social Research, pp. 1-9. [optional] o Danielle K. Citron, *Technological Due Process*, 85 WASH. L. REV. 1249 (2008). [optional] o IEEE, *Ethically Aligned Design: A Vision for Prioritizing Human Well-being with Autonomous and Intelligent Systems* (The IEEE Global Initiative on Ethics of Autonomous and Intelligent Systems – Version 2, 2017), Executive Summary & Principles, pp. 2-31. [optional]
6/7	**DRAGON BOAT FESTIVAL – NO CLASS**
6/14	**ROUNDTABLE: REVISITING KEY ISSUES OF AI LAW AND POLICY**
6/21	**FINAL – NO CLASS**