Spring 2021 – 15.622/15.6221

15.622 for graduate credit
15.6221 for undergraduate credit (meets with 15.622)

The Law of AI, Big Data and Social Media; and other Digital Tech Hot Spots

Preliminary Syllabus and Reading List

[As of 2/10/21]

Instructors: John Akula and Louis Rodriques, Senior Lecturers in Law

Meets full semester; Tuesdays 7:00-8:30pm; Fully remote

6 units; P/D/F only (as modified by special MIT rules for Spring 21)
First class meets Tues Feb 16

No prerequisites required or suggested; No prior knowledge of law expected

Students from ALL MIT departments welcome

Overview

Advances in artificial intelligence, data science, and other cutting-edge digital technologies are having a profound effect on our economy and social fabric, and also triggering an increasingly robust legal debate and response – consider, for example, privacy, bias, and rights in software-related innovations. Many applications are being pursued in sectors that are heavily-regulated or liability-sensitive, such as healthcare and financial services. There is also deepening unease about possible misuses of AI and analytics-related tools in many domains, such as the role of digital media in political discourse. Students whose careers will be built upon or impacted by these developments will need to navigate successfully through high-stake, law-sensitive junctures. This course will provide the understanding and skills you will need as you --

- pursue a career built on cutting edge skills; or
- are part of an entrepreneurial team bringing an innovation from idea to impact, or
- manage your organization's adaptations to new opportunities and risks.

The instructors were for many years practicing attorneys, and the course imparts practical skills for dealing with real-life issues.

However, one challenge is that technology is moving faster than law, a major problem when changes are impactful and empower not just benefits but novel forms of mischief. So we will look closely at the ongoing public discussion about how the law should or is likely to evolve. One benefit is that coping with legal uncertainty and change is an important managerial and entrepreneurial skill.

But there is another reason to consider the societal impact of these innovations and the societal response. Many MIT students will take on positions of leadership to which they will bring an uncommon understanding of these technologies. This course will prepare them for a role in advancing understanding of the societal ramifications of these innovations, and in designing

institutional and legal frameworks to facilitate their social and economic benefits while inhibiting the harms they may cause.

There are no prerequisites. Whatever background you need in law or business will be provided. Students from outside Sloan are welcome, and have comprised a large proportion of the class. You do not need to participate in Sloan bidding.

The law has its own terminology, but the course materials are English-as-a-second-language-friendly.

Important adaptations to this semester's special circumstances

Some adjustments have been made to make this course more valuable and less burdensome in our current special circumstances. The key points:

- As has always been the case, consistent class attendance is critical, because most of the highest-value takeaways are communicated in class. You are expected to attend synchronously whenever feasible, but if you cannot, you can attend asynchronously. However, you should expect to attend ALL classes, one way or the other.
- Required readings are light, to focus on essential items directly relevant to class discussion. Students should expect to do all required readings before class.
- The main deliverable will be "e-Learnings" (short-answer exercises) designed to help students focus on key takeaways from the readings and discussions.

Class-by-class topical outline

Module I - Applying AI/Big Data to real-world problems. What law-sensitive problems arise when these technologies are put to use? A sample of uses that illustrate the key issues	
Class 1 Tu Feb 16	**Putting AI/Big Data to use (I).** Some general concerns. Narrow intelligence. Transparency. Quality of data. The "fit" to machines of legal regimes based on people. Decision support, robotics, and new forms of mischief. Example: The use of algorithms in the administration of criminal justice.
Class 2 Tu Feb 23	**Putting AI/Big Data to use (II).** Example: Robo-advisors and Securities and Exchange Commission regulation of investment advisors. Examples from healthcare: Patient management algorithms and the FDA approach to machine-learning medical devices. Example: Driverless cars.
Module II: Critical issues in the careers of innovators and the world of work	
Class 3 Tu Mar 2	**Planning a career based on cutting-edge skills.** For tech-savvy and innovative employees, the real meaning of non-disclosure, non-competition, and invention assignment agreements. Review of a typical employment agreement. Leaving an employer to join a competitor or a start up a competing venture. An employee's duty of loyalty. Trade secret considerations.
Tues March 9 – No class – Monday classes moved to Tuesday	

Class 4 Tu Mar 16	**Digital technology and the world of work.** Workplace privacy. Surveillance, drug testing, and personality testing. An overview of anti-discrimination law in employment, and a close look at the problems of algorithmic discrimination, transparency and fairness. The internet and the "gig economy."
Tues March 23 – No class – MIT Break	
Class 5 Tu Mar 30	**A pause for perspective – An overview of the US legal system:** Particular attention to how it deals with disruptive technologies.
Module III: What rights does the law recognize in AI innovations, software and data; and to whom do those rights belong?	
Class 6 Tu Apr 6	**Rights in innovations (I):** What rights does the law recognize in innovations? The law of patents, copyrights, and trade secrets, with a special focus on software and data. When do these rights belong to individuals, and when to companies that hire them? **Guest - Regina Penti, partner, Ropes & Gray**
Class 7 Tu Apr 13	**Rights in innovations (I):** Continued discussion of the issues raised in Class 6
Tues April 20 – No class – MIT Break	
Module IV: Some broader issues: How the law shapes and responds to the broader impact of cutting-edge digital technologies on the flow of information and social and economic fabric	
Class 8 Tu Apr 27	**Privacy and cybersecurity:** "Reasonable" expectations of privacy. Consent. Privacy and First Amendment freedom of speech and Fourth Amendment limits on searches and seizures. Recent cases, and how to read a case. The "common law" right to privacy. Confidential relationships, including attorney-client. Government surveillance and private "surveillance intermediaries."
Class 9 Tu May 4	**Social media and civic and political discourse:** First amendment and freedom of speech. The decline of traditional media and the rise of digital media. The meaning of Sec 230 of the CDA and the current debate. An overview of the legal framework of elections, lobbying, foreign influences, and political speech. Applying these rules to political influence campaigns built upon AI and Big Data.
Class 10 Tu May 11	**Digital technology and the rules of business competition and fair dealing.** The role of competition policy in restraining dominant firms. Standard-setting. Data as a strategic business resource and the competitive implications of the distribution of data and restrictions on access. Acquisitions and the market for innovation. Privacy as a competition issue. Consumer protection and digital contracts.
Class 11 Tu May 18	**Blockchain and "smart contracts."** Securities regulation and ICOs (Initial Coin Offerings); Disintermediation in financial services. Blockchain and what makes a "smart" contract. **Wrap-Up and Key Takeaways**

Expectations of students

There is no final exam or any other course obligation after the last meeting of the class.

Listener status is not available for any student enrolled in a degree program, unless your degree program does not permit P/F courses to be counted towards the degree.

Any student requiring an academic accommodation should contact one of the instructors.

Students should conduct themselves in accordance with the "Sloan Values in Practice," as posted on the course Canvas site and also at:

https://mysloan.mit.edu/offices/deans/values/Pages/CoreValues.aspx

Class attendance: Much of the most important material in this course is presented in class, so students should attend **ALL** classes, synchronously or asynchronously. You should attend synchronously whenever practical.

If it is not practical for you to attend a class at the usually scheduled time, you should, prior to that class or shortly thereafter, email the TA and explain your absence. (You do not need to include in the e-mail any personal details -- just a general statement of the reason, e.g., time zone problem, illness, or family obligation.) If the reason applies to more than one meeting of the class, your email can explain that and will be sufficient for missing multiple classes. If you have missed a scheduled class meeting, you should, within 72 hours of the scheduled class, watch the video of that class and email to the TA a copy of your notes from viewing the video. Your notes can be typed or handwritten. (For handwritten notes, photos of the notes will be sufficient.) When this procedure is followed, a student will be considered to have attended the class.

Class preparation: Students are expected to do the all required readings before the class for which they are assigned.

Class participation: Students are encouraged to participate in class discussion. Students may be asked in advance to be "On Deck" for certain classes. An "On Deck" student will be expected to prepare with extra care, and may be "cold called."

e-Learnings: There will be "e-Learnings" to assist students in focusing on key takeaways. Each e-Learning will be a short exercise utilizing multiple choice or short answers, and administered through Canvas. The exercises provide feedback as to whether an answer was right or wrong, but the e-Learnings are not graded. Students must complete e-Learnings on time.

Each e-Learning should be completed by the end of the day of the due dates shown below, in Boston time. Students in other time zones must comply with the Boston time deadlines. If complying with the deadline is a hardship, please contact the TA in advance of the deadline.

The tentative schedule for the e-Learnings:

e-learning	TOPIC	POSTED	DUE
1	Classes 1 & 2: AI/Big Data Applications	Wed Feb 24	Sun Feb 28
2	Class 3: Careers	Wed March 3	Sun March 7
3	Class 4: Workplace	Wed March 17	Sun March 21
4	Class 5: Overview US legal system	Wed March 31	Sun April 4
5	Classes 6&7: Rights in innovations	Wed April 14	Sun April 18
6	Class 8: Privacy	Wed April 28	Sun May 2
7	Class 9: Social media	Wed May 5	Sun May 9

The Canvas course site: Sloan uses Canvas for on-line course sites. Students from outside of Sloan should be sure that they are registered on the Canvas site for this course.

Grading

Grading will be Pass/D/Fail only, as modified by special MIT rules for Spring 21.

To be assured of a satisfactory grade, a student should meet two benchmarks:

- You should not be absent for more than 2 classes and must complete in a timely manner all e-Learnings except those associated with the 2 missed classes. (A student who follows the appropriate procedure for asynchronous attendance will not be counted as absent, but any e-Learning associated with the asynchronous class must be completed on time.)
- The pattern of your e-Learning scores should be significantly better than the scores which would be expected from pure guesswork.

Contact Information

Instructors:

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Reading List

There is no textbook. All required and recommended readings will be posted on Canvas and available through StudyNet, except as noted below.

Note: Some of the readings below are court cases. These are accessible on the internet but you should use the versions provided for this class, which have usually been heavily edited for length.

Module I - Applying AI/Big Data to real-world problems. What law-sensitive problems arise when these technologies are put to use? A sample of uses that illustrate the key issues	
Class 1 Tu Feb 16	**Putting AI/Big Data to use (I)** Required: • Machine Bias," ProPublica, May 23, 2016 (analysis of "Compas" algorithm used in the criminal justice system) • Ruha Benjamin, "Assessing risk, automating racism," Science (Vol 366 Issue 6464; Oct 25,2019; pp. 421-422) Recommended: • (If you are looking for a basic introduction to machine learning, here is a good one.) M. L. Jordan and T. M. Mitchell, "Machine learning: Trends, Perspectives, and Products" in Science, Vol. 349 Issue 6245, July 17 2015, pp 255-260. • This one-page item may also be useful for the newcomer to artificial intelligence: Matthew Hudson, "AI Glossary" Science, Vol 357 Issue 6366, p. 19
Class 2 Tu Feb 23	**Putting AI/Big Data to use (II)** Required: • Securities and Exchange Commission (SEC) "Guidance Update" (February 2017), pp. 1-8 only (SEC concerns relating to applying regulations for investment advisers to "robo-advisers") • Arkadiusz Sitek and Jeremy M. Wolfe, "Assessing Cancer Risk from Mammograms: Deep Learning is Superior to Conventional Risk Models," Radiology (July 2019, pp. 67-68) (discussion of MIT Prof Regina Barzilay's research into cancer diagnosis) • Excerpts from the Food and Drug Administration (FDA) "Proposed Regulatory Framework for Modifications to Artificial Intelligence/Machine Learning [AI/ML]-Based Software as a Medical Device [SaMD]," (2019)
Module II: Critical issues in the careers of innovators and the world of work	

Class 3 Tu Mar 2	**Planning a career based on cutting-edge skills** Required: • Sample "Employee Noncompetition, Nondisclosure And Developments Agreement" (provided by Lou Rodriques). An employment agreement with provisions commonly found in the agreements which MIT students will be required to sign in summer jobs and a first job after graduation. Recommended: • From Constance Bagley and Craig Dauchy, The Entrepreneur's Guide to Law and Strategy (Cengage Learning; 5th ed. 2018), Ch. 2 ("Leaving Your Employer," pp. 16-36)
Tues March 9 – No class – Monday classes moved to Tuesday	
Class 4 Tu Mar 16	**Digital technology and the world of work.** Required: • "Amazon's Gender-Based Algorithm Is Not Alone," Bloomberg Opinion, October 16, 2018; Byline Cathy O'Neil • "If Workers Slack Off, the Wristband Will Know.(And Amazon Has a Patent for It." New York Times Feb 1, 2018; Byline Ceylon Yeginsu. • "Microchip Implants for Employees? One Company Says Yes," New York Times, July 25, 2017; Byline Maggie Astor. • Three D, LLC v. National Labor Relations Board (Excerpts from 2014 Federal Court of Appeals decision on the discharge of employees for Facebook activity) Recommended: • Scott v. Beth Israel Medical Center (Excerpts from 2007 New York court decision on whether an employee involved in a legal dispute with employer waived the attorney-client privilege by using the employer's email system to communicate with his attorney)
Tues March 23 – No class – MIT Break	
Class 5 Tu Mar 30	**A pause for perspective – An overview of the US legal system** Required: • Akula, "The U.S. Legal System in a Peanut"
Module III: What rights does the law recognize in AI innovations, software and data; and to whom do those rights belong?	
Class 6 Tu Apr 6	**Innovation and intellectual property (I)** Required: • Constance Bagley and Craig Dauchy, The Entrepreneur's Guide to Law and Strategy (5th ed, 2018), Section 14.3 on "Patents" (pp. 523-541). Recommended: • Excerpts from complaint that initiated civil law suit brought by Waymo (Google subsidiary) against Uber relating to Anthony Levandowski and driverless car technology)

Class 7 Tu Apr 13	**Innovation and intellectual property (II)** Required: • Lotus v. Borland (foundational case on the application of copyright law to software) • Constance Bagley and Craig Dauchy, The Entrepreneur's Guide to Law and Strategy (5th ed, 2018), Section 14.2 on "Copyrights" (pp. 509-523) and Section 14.9 on "Special Issues Associated with Software Licenses, Open-Source Software, and Online Terms of Use (pp. 564-567)
Tues April 20 – No class – MIT Break	
Module IV: Some broader issues: How the law shapes and responds to the broader impact of cutting-edge digital technologies on the flow of information and social and economic fabric	
Class 8 Tu Apr 27	**Privacy and cybersecurity** Required: • Carpenter v. U.S. (US Supreme Court case on government access in a criminal investigation to cell phone location data) • Federal Trade Commission press release (July 24, 2019) "FTC's $5 billion Facebook settlement: Record-breaking and history-making" Recommended: • U.S. Federal Trade Commission, "Privacy and Data Security Update 2020." Release expected in late February 2021 – will be posted on Canvas if and when released • Scott v. Beth Israel Medical Center (Excerpts from 2007 New York court decision on whether an employee involved in a legal dispute with employer waived the attorney-client privilege by using the employer's email system to communicate with his attorney) (Note: This item was also recommended reading for Class 4, and is posted with the materials for Class 4)
Class 9 Tu May 4	**Social media and civic and political discourse** Required: • "Section 230: The little law that defines how the Internet works" (The Washington Post, Dec 20, 2020) • "Social media liability law is likely to be reviewed under Biden" (The Washington Post, Jan 18, 2021 • Test of Section 230 as originally enacted in 1996 • La Liberte v Reid (section 230 immunity and defamation)
Class 10 Tu May 11	**Digital technology and the rules of business competition and fair dealing** Required: • U.S. Department of Justice Press Release (Oct 20, 2020) on "Justice Department Sues Monopolist Google for Violating Antitrust Laws" • U.S. Federal Trade Commission Press Release (December 9, 2020) on "FTC Sues Facebook for Illegal Monopolization" • Fteja v. Facebook (leading case on the enforcement of online terms of use and contracts) Recommended: • John Akula, "U.S. Antitrust Law in a Peanut"

Class 11 Tu May 18	**Blockchain and "smart" contracts / Wrap-Up and Key Takeaways** Required: • Belestra v ATBCOIN (case dealing with when an Initial Coin Offering is considered a public offering under the US securities laws) • Rebecca Lewis, John McPartland, and Rajeev Ranjan, "Blockchain and financial market innovation," Economic Perspectives (Federal Reserve Bank of Chicago, 2017). (A broad overview of blockchain technology for the non-technical reader and a discussion of some applications in financial services.) Recommended: • John Akula, "Contracts: The Law of the Deal in a Peanut"