

TECHNOLOGY, CITIZENSHIP, & GOVERNANCE

HOW TECHNOLOGY SHAPE OUR SOCIAL LIFE

Professor Liav Orgad

TA: Haile Zola

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Lauder School
of Government,
Diplomacy & Strategy

Technology, Citizenship & Governance

Overview: Emerging technologies are changing the institution of citizenship and reconceptualizing politics and governance. While the scale of this transformation is unknown, new technologies are already blurring the lines between physical and digital, local and global. Law enforcement agencies employ AI, data mining, and machine learning to create an algorithmic identity that uses online activity to predict “digital citizenship”; genetic advances expand the understanding of ancestry and migration history—which has been labeled “genetic citizenship”; China and Western states use sensing, processing, and predicting technologies for surveillance governance and “citizenship gamification”; blockchain technologies undermine the concepts of sovereignty and political power, enabling the creation of a decentralized “cloud citizenship”; tech giants take on the traditional role of governments, inviting us to think of the status of citizens in the digital age; and although it seems far-fetched, there is a growing body of literature on “robot rights.”

Goal: The course examines cutting-edge technological and scientific developments and their increasingly profound impact on citizenship and governance. Topics include netizenship and digital governance, cloud citizenship and decentralized political communities, AI and law enforcement, liquid democracy, digital demos, digital social contracts, social scoring systems, crowd-law, sensing cities, robot rights, and “global e-citizenship.” Overall, the course explores how to think of “citizenship,” “rights/duties,” “sovereignty,” and the “state” through the lens of technological innovation. It identifies the directions that technology could lead to,

presents the legal and ethical issues they raise, and examines how they should be governed.

Method: The classes combine lectures, discussions, and learning activities. The goal is to stimulate a debate on theoretical and practical aspects of some of the most urgent governance & technology issues of our time.

Grade: (1) final paper (see below): 90%; (2) constructive contribution in class (10%).

Final Paper: The assignment will be done in pairs (10 pages, not including bibliography) and should focus on one of the course subject matters (or related topics). It should include a research question, literature review, and a thesis. Students must send to the TA the topic (according to the instructions TBA) and an abstract no later than *May 17, 2021*. Students cannot write on a topic that has been already chosen; the selection will be on the basis of “first-come, first-served.” Students should submit the final paper no later than 23:59 (11:59pm) on *June 24, 2021*. It should be written in Times New Roman 12, double-spaced, and a standard width margin.

Reading Assignments: In advance of each class, please read the materials prescribed in the syllabus. Students should come to class prepared, having completed the readings and considered the guiding questions for each class. The reading materials are available on the course webpage. It is an obligation of the students to regularly check the ongoing updates and assignments on the course web.

Contact Information: Please contact me by email at Oliav@idc.ac.il. Office Hours: only by digital appointment. For class issues, please contact directly the teaching assistant, Haile Zola, at haile.zola01@post.idc.ac.il.

SYLLABUS

“The Enlightenment started with essentially philosophical insights spread by a new technology. Our period is moving in the opposite direction. It has generated a potentially dominating technology in search of a guiding philosophy.”

— Henry Kissinger

CLASS 1: DIGITAL CITIZENSHIP/NETIZENSHIP

Over the last three decades, the Internet has mushroomed from 0 to 4.6 billion active “users,” 60 percent of the world population (more than 95 percent in the developed world), the fastest diffusion in human history. But what kind of “society” it has created? The digital realm includes a few powerful entities, who control the entire space, and billions of “data subjects,” as termed by the GDPR, who have almost no rights and cannot vote, be consulted, or influence decision-making. They have no due process (e.g., in Internet censorship or privacy violation) and are not the owner of their data. The structure of the digital space remains “feudal” in nature – people are not even perceived as digital “citizens,” but “users” – and is not based on the ideals on which Western citizenship is grounded—liberty, equality, and democracy.

Should internet “users” be perceived as digital “citizens”? What should be the regulatory mechanisms for that? How should we think of “rights,” “duties,” and “identities” in cyberspace given the features of the Web? What legal norms should apply, based on which justifications, and for what goals? Who should have the right to collect and use personal data, for what purposes, and under which procedures? Are notions of civic participation or political representation just and feasible? Class 1 addresses fundamental questions about the digital status, rights, responsibility, and identity of netizens/citizens in the digital age.

1. Luca Cardelli, Liav Orgad, Gal Shahaf, Ehud Shapiro, Nimrod Talmon, “Digital Social Contracts: A Foundation for an Egalitarian and Just Digital Society” (work-in-progress, 2021).
2. Henry Kissinger, “How the Enlightenment Ends,” *The Atlantic*, June 2018.
3. John Naughton, “Why We Need a 21st-century Martin Luther to Challenge the Church of Tech,” *The Guardian*, October 29, 2017.
4. Nicolas Suzor, “Digital Constitutionalism: Using the Rule of Law to Evaluate the Legitimacy of Governance by Platforms,” *Social Media and Society* (2018): 1– 11.
5. Mark Zuckerberg, “Building Global Community,” *Facebook*, 2017.

CLASS 2: JUS ALGORITMI

Computer algorithms use data such as online activity to determine a person’s digital identity. John Cheney-Lippold captures this phenomenon with the phrase *jus algoritmi*. Under this approach, political belonging is not only determined by principles of soil and blood (*jus soli* and *jus sanguinis*), but also by actions in cyberspace (*jus digitalis*). Identity is defined not by “who you are” on paper, but by “who you are” as data—the way you live in the ether. An example is the U.S. NSA’s PRISM Surveillance Program, which developed a profile of “algorithmic foreigner” to target suspicious individuals with a 51 and higher percent likelihood of being “foreigner.” A second example is the U.S. HSD’s initiative (2018) to collect data on new arrivals at U.S. airports based on their social media handles and mobile phone information.

Class 2 presents how technology redefines “who we are,” investigate when digital identity matters, and analyze ethical dilemmas involved in citizenship datafication. What could be the functional features and boundary structures of *jus algorithmi* and how it is different from state membership? What should be the data sources to assess digital belonging? What should be the balance between online and offline worlds?

1. James Bridle, “Algorithmic Citizenship, Digital Statelessness,” *GeoHumanities* 2(2) (2016): 377-381.
2. Luke Dormehl, *The Formula: How Algorithms Solve All Our Problems ... And Create More* (Perigee Book, 2014): 16-25, 37-41.
3. John Cheney-Lippold, “Jus Algoritmi: How the National Security Agency Remade Citizenship,” *International Journal of Communication* 10 (2016): 1721-1742.
4. Seth Stephens-Davidowitz, *Everybody Lies: Big Data, New Data, and What the Internet Can Tell Us About Who We Really Are* (2017): 45-54, 97-99 (possible: 1-7 and footnotes 1-3, 289).
5. “Establishing Identity is a Vital, Risky and Changing Business, *The Economist*, December 22, 2018.

CLASS 3: CLOUD COMMUNITIES & VIRTUAL NATIONS

In international law, a “state” possesses four qualifications: a permanent population, a defined territory, an effective government, and a capacity to enter into relations with other states. Unsurprisingly, the concept of a “virtual state” does not exist in international law and political theory, yet the idea of a non-territorial form of political membership is well-known. As technological opportunities become more developed, it may just be a matter of time until the idea crystallizes—not as a substitute of the state, but as a parallel voluntary self-sovereign political community that transcends national borders and operates in cyberspace to achieve political goals. Google, Microsoft, and other private firms are already exploring pilots for self-governed cloud communities and the topic will become more central in the years to come.

Class 3 examines the concept of “cloud communities” as a platform in which individuals can create political communities, organize certain functions of their life, participate in decision-making, and have a voice that is otherwise not effectively given to them in the nation-state structure. What is the justification for such a concept and its possible functions? What are the differences between cloud communities and social networks, trade unions, and global civil society? What conceptions of sovereignty can emerge out of it? What international legal sources can support recognition of non-territorial political communities?

1. *Cloud Communities: The Dawn of Global Citizenship?* Florence: European University Institute. RSCAS 2018/28. Liav Orgad and Rainer Bauböck (eds.), 2018, 1-6, 11-18, 23-24, 45-46.
2. Veronika Bílková, “A State Without Territory?”, in *The Netherlands Yearbook of International Law 2016: The Changing Nature of Territoriality in International Law*, Martin Kuijer, Wouter Werner (eds.), Springer: Asser Press, 2017, 19-44.
3. Wolfgang Drechsler, “Pathfinder: e-Estonia as the β -version,” 10(2) *JeDEM* (2018): 1-22.
4. *Panarchy: Political Theories of Non-Territorial States*. Aviezer Tucker & Gian Piero de Bellis eds. (Routledge, 2015, excerpts).
5. “The Migrant Union: Digital Livelihoods for People on the Move,” UNDP, 2019

CLASS 4: THE ETHICS OF TECHNOLOGY (GUEST LECTURER)

1. Andy Clark and David Chalmers, “The Extended Mind,” 58(1) *Analysis* (1998): 7-19.
2. Martin Heidegger, *Question Concerning Technology and Other Essays* (HarpPeren, 1982): 305-317.
3. Wessel Reijers and Mark Coeckelbergh *Narrative and Technology Ethics* (Palgrave Macmillan, 2020): 1-24.
4. Langdon Winner, “Do Artifacts Have Politics?” 109(1) *Daedalus* (1980): 121-136.
5. Langdon Winner, “Citizen Virtues in a Technological Order,” in *Technology and the Politics of Knowledge*, Andrew Feenberg and Alastair Hannay (eds.), Bloomington: Indiana University Press, 1995, 65-84.

CLASS 5: NUMBERS AND RANKINGS AS A SOCIAL TECHNOLOGY

Scoring has always been a tendency of human beings. All of us have been scored once: in schools and sports, by banks and insurance companies, for getting a visa and having a loan. It is inconceivable how daily decisions are influenced by scoring; people use scoring lists to choose a university, watch a film, buy a product, book a hotel, and receive medical treatment. Modern technology has made scoring central to algorithmic decision-making: the number of likes on Facebook, Twitter followers, and Airbnb stars. Emerging technologies have enabled the “scientification” of traditional scoring methods. Human beings invented numbers to place an order in the world and have become numbers as part of the new world order.

What are the conceptual differences between rating, rating, and scoring? What is the nexus to metrics? How numerocracy differs from meritocracy? What are the central reasons for the rise of numerocracy, and what are their pros and cons? Should we trust numbers? What does a government-by-numbers regime mean, and how different is it from the rule of law (“nomocracy”)? Are metrics making us posthuman (and in what senses)? Are metrics reflect reality or reconstruct it? And how should metrics be regulated?

1. Wendy Nelson Espeland and Mitchell L. Stevens, “A Sociology of Quantification,” 49(3) *European Journal of Sociology* (2008): 401-436.
2. Theodore M. Porter, *Trust in Numbers: The Pursuit of Objectivity in Science and Public Life* (Princeton University Press, New Edition, 2020): 49-51, 60-65.
3. Steffen Mau, *The Metric Society: On the Quantification of the Social* (Polity Press, 2019): 99-110.
4. Alain Supiot, *Governance by Numbers: The Making of a Legal Model of Allegiance* (Saskia Brown tr., Oxford: Hart Publishing, 2020): 13-30.
5. Liav Orgad Wessel Reijers, and Primavera de Filippi, *The Human Metric: How Scoring is Governing Our Life* (work-in-progress): Ch. 1.

CLASS 6: SOCIAL CREDIT SYSTEMS—CHINA AND THE WEST

China is currently developing the most comprehensive scoring system in history, where rights are based on a social credit assigned to each citizen by the government. The score effect both eligibility for benefits and sanctions. Western reports on the Chinese system present it as the ultimate dystopian nightmare, a world in which individuals live in a “Bentham’s panopticon.” But China’s System is a striking reminder of how the world is rapidly changing and a reflection of similar-yet-different systems existing in the West.

What is a Social Credit System? What are the three-layer Social Credit System in China, and how different they are in their data sources, scoring methods, and normative consequences? Are these systems

utopian or dystopian from utilitarian, libertarian, egalitarian perspectives? How unique is China's Social Credit System compared to Western public or private similar systems? What are the points of similarities and differences? How do social credit systems affect virtue ethics and citizenship governance? Are they creating a form of cybernetic citizenship and, if so, what does it mean conceptually and normatively? Are social scoring systems effective in cultivating habits (based on behavioral economics and motivation crowding theory), and what are societal side effects? Class 6 discusses different initiatives of social credit systems in China and Western societies and provides normative tests to distinguish between these systems.

1. Liav Orgad and Wessel Reijers, "How to Make the Perfect Citizen? Lessons from China's Model of Social Credit System," *Vanderbilt Journal of Transnational Law* (forthcoming, 2021).
2. *A Dystopian Future? The Rise of Social Credit Systems*. Florence: European University Institute. RSCAS Working Paper 2019/94. Liav Orgad and Wessel Reijers (eds.), 2019, excerpts.
3. Liav Orgad Wessel Reijers, and Primavera de Filippi, *The Human Metric: How Scoring is Governing Our Life* (work-in-progress): Ch. 2-3.
4. Daithi Mac Sithigh and Mathias Siems, "The Chinese Social Credit System: A Model for Other Countries?" *Modern Law Review* 82(6) (2019): 1034-1071.
5. Yu-Jie Chen, Ching-Fu Lin, and Han-Wei Liu, "'Rule of Trust': The Power and Perils of China's Social Credit Megaproject," *Columbia Journal of Asian Law* 32(1) (2018): 1-36.

CLASS 7: MATCHING ALGORITHMS/CITIZEN MATCHMAKERS

Matching algorithms have been proven effective in a wide range of policy areas: allocation of students to public schools, medical interns to hospitals, and cadets to the US army. Following the refugee crisis, initiatives have been implemented to assign refugees to hosts (known as "Airbnb for refugees") and local companies (such as LinkedIn's Refugee Talent). Such systems seek to optimize two (or more) sides given their interests and preferences and provide new ways to select migrants and citizens. Matching can also apply to a global selection of labor migrants. Foreign workers could submit their preferences to a global database according to a wide range of criteria (economic, social, or cultural), and states could then submit preferred qualifications (age, education, skills, family ties, and language skills) for their ideal "other."

Class 7 addresses the idea of matching algorithms. *Technologically*, there are questions of design—a market-design approach that matches states and newcomers or a data-driven approach that employs machine learning data to optimize outcomes? How are "success" and "failure" to be measured? *Normatively*: what are the justifications for selecting future citizens by matching algorithms, and what are the risks? What should the goals be of such a system? Which criteria should be used? What are the state's interests in participating in this system? And how does selecting citizens through matching algorithms differ from selecting labor migrants for territorial admission and refugees for resettlement?

1. Kirk Bansak, Jeremy Ferwerda, et al., "Improving Refugee Integration Through Data-Driven Algorithmic Assignment," *Science* 359 (2018): 325-329.
2. Slava Bronfman et al., Redesigning the Israeli Medical Internship Match, *ACM Transactions on Economics and Computation* 6(3-4) (2018): 1-18.
3. Gunter J. Hitsch, Ali Hortaçsu, and Dan Ariely, "Matching and Sorting in Online Dating," *American Economic Review* 100(1) (2010): 130-63.
4. Moran Sadeh, "Global Reputation for Guest Workers," *Journal of Legal Studies* 47(S1) (2018): 247-269.
5. Will Jones and Alexander Teytelboym, "The International Refugee Match: A System that Respects Refugees' Preferences and the Priorities of States," *Refugee Survey Quarterly* 36(2) (2017): 84-109.

CLASS 8: DIGITAL DEMOS

Recent years have witnessed the development toward some form of a “digital agora” in which individuals actively and directly participate in public decision-making. Salient examples are crowdsourcing legislation that involves citizens in a digital legislation process, as demonstrated in Iceland’s world’s first crowdsourced Constitution, Finland’s crowdsourced off-road traffic law, or participatory budgeting in its different versions in Porto Alegre, Chicago, Calgary, and Paris (for a survey of projects, see NYU’s [CrowdLaw](#)); and self-sovereign citizenry, as demonstrated by the Swiss town Zug where citizens have digital identities on Ethereum Blockchain and participate in a consultative e-vote process. These initiatives present a new form of political participation—delegative rather than representative, digital rather than physical, dynamic rather than static, and based on a smart contract rather than a social contract.

Class 8 introduces government-sponsored projects that employ technology to increase public deliberation and reviews the challenges: *technological*—ensuring the anonymity of votes, securing the voting process, ensuring equality, and providing access to the Internet to every voter; *political*—avoiding a digital tyranny of the majority, reconciling with existing political institutions, and increasing social legitimacy; *socio-psychological*—providing incentives that make participation attractive; and *legal*—lacking frameworks and institutions to support such technological initiatives by territorial or nonterritorial demos.

1. Beth Simone Novec, *Smart Citizens, Smarter State: The Technologies of Expertise and the Future* Cambridge: Harvard University Press, 2015, 241-266.
2. Katrin Oddsdottir, “Iceland: The Birth of the World’s First Crowd-Sourced Constitution,” *Cambridge Journal of International and Comparative Law* 3(4) (2014): 1207-1220.
3. Tanja Aitamurto and Hélène Landemore, “Crowdsourced Deliberation: The Case of the Law on Off-Road Traffic in Finland,” *Policy & Internet* 8(2) (2015): 174-196.

CLASS 9: ROBOT RIGHTS: THE MORAL AND POLITICAL STATUS OF MACHINES

In 2019, the European Union Parliament recommended giving sophisticated autonomous robots a legal status—“e-persons.” What should be the moral and political status of robots? How should human-robot interactions be regulated? Should the regulatory regimes be similar to animals, legal entities (such as corporations), electronic persons, or property? What are the moral considerations for granting a legal personhood of AI systems? What form of “rights” should be applicable? And can robots be prosecuted?

1. David J. Gunkel, *Robot Rights*, The MIT Press, 2018, 79-105.
2. Stephen E. Henderson, “Should Robots Prosecute and Defend?” 72(1) *Oklahoma Law Review* (2019): 1-19.
3. Johannes Marx and Christine Tiefensee, “Of Animals, Robots and Men,” *Historical Social Research* 40(4) (2015): 70-91.
4. Matthew Liao, “The Moral Status and Rights of Artificial Intelligence,” in Matthew Liao (ed.), *The Ethics of Artificial Intelligence* (New York: Oxford University Press, 2019).
5. Samir Chopra and Laurence F. White, *A Legal Theory for Autonomous Artificial Agents*, Michigan: University of Michigan Press, 2011, Ch. 5.

CLASS 10: GENETIC CITIZENSHIP

Is inborn talent the same as inborn property, or should inheritance of talent (strength, ability, skill) be treated differently than the inheritance of property (e.g., citizenship, class, money)? Under utilitarian, libertarian, and egalitarian theories, should we compensate for some disadvantages yielded by inborn talent indirectly—by taking into account natural goods in the redistribution of social goods—or directly, by trying to interfere with a natural endowment through technological interventions, such as gene editing? What is right or wrong with genetic selection and gene editing under different theories, and would your answer remain the same under relational and non-relational approaches? If some genetic intervention can be justified, should it be confined to genetic diseases and other misfortunes, or should it further include traits, such as strength, intelligence, and memory? Is it morally different to edit the genes of an embryo compared to a fully developed human being? Should the government incentivize individuals to use genetic technologies by funding, and what should be the criteria for allocating fundings to individuals? And is a world where all individuals are equal in talent and property an egalitarian dream or nightmare?

Class 10 discusses the ways in which technological advances in genetics and human reproduction affect our understandings of membership and belonging, individuals and collectives, racism and humanism. Who is the owner of our genes? How to regulate gene editing? Should genetic data be used for compensation for past injustice? And should genetically-based tests (e.g., IQ tests) be legally permitted?

1. Jonathan S. Brown, “Genetic Manipulation in Humans as a Matter of Rawlsian Justice,” 27(1) *Social Theory and Practice* 83 (2001): 83-110.
2. Nils Holtug, “Does Justice Require Genetic Enhancements?” 25 *Journal of Medical Ethics* (1999): 137-143.
3. Michael J. Sandel, “The Case Against Perfection,” *The Atlantic* (April 2004).
4. Julian Savulescu, “Procreative Beneficence: Why We Should Select the Best Children,” 15(5/6) *Bioethics* 413 (2001): 413-426.
5. Shlomi Segall, *Health, Luck, and Justice* (2009): 124-133.

CLASS 11: AI, PRIVACY, & LAW ENFORCEMENT

1. Michal Kosinski and Yilun Wang “Deep Neural Networks Are More Accurate Than Humans at Detecting Sexual Orientation from Facial Images,” *Journal of Personality and Social Psychology* 114(2) (2018): 246-257.
 2. Anne Logsdon Smith, “Alexa, Who Owns My Pillow Talk? Contracting, Collateralizing, and Monetizing Consumer Privacy Through Voice-Captured Personal Data,” *Catholic University Journal of Law and Technology* 27 (2018): 187-226.
 3. Cathy O’Neil, *Weapons of Math Destruction: How Big Data Increases Inequality and Threatens Democracy* New York: Crown, 2016 (excerpts).
- * Please also read “Genealogy Databases and the Future of Criminal Investigation,” *Science* (2018).

CLASS 12: LIQUID DEMOCRACY

1. Christian Blum and Christina Isabel Zuber, “Liquid Democracy: Potentials, Problems, and Perspectives,” *Journal of Political Philosophy* 24(2) (2016): 162-182.

2. Wessel Reijers, Fiachra O'Brolcháin, and Paul Haynes, "Governance in Blockchain Technologies & Social Contract Theories," *Ledger* 1 (2016): 134-151.
3. Ehud Shapiro, "Democracy and E-Democracy", *Communications of the ACM* 61(8) (2018): 31-36; Ehud Shapiro, "Global Cryptodemocracy is Possible and Desirable," in *Cloud Communities*, 61-65.

CLASS 13: GLOBAL E-CITIZENSHIP

1. David Miller, "The Idea of Global Citizenship," in *Varieties of Sovereignty and Citizenship*, Sigal R. Ben-Porath & Rogers M. Smith (eds.), Pennsylvania: University of Pennsylvania Press, 2013, 227-243.
2. Liav Orgad, *The Future of Citizenship: How Technology Shapes Membership and Belonging* (Cambridge University Press, under contract, excerpts).
3. "Self-Sovereign Identity: A Position Paper" (Blockchain Bundesverband, Berlin, 2019).