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Bots, Biases and Bottom Lines:
Algorithms and Organizations

Summer Semester 2019
Mondays, 4-6 pm
Room 1.151
(MS-WSt-1806; MS-WOr-1806; MS-WFW-1811; MG-WFW-1805; M25-2)

Algorithms have left the labs of computer scientists and entered all kinds of organizations. Recruiting, controlling, planning, product development: Today, most of the routine work that is done in organizations can be supplemented or replaced by some sort of data-centric automating technology. The proprietary, opaque, and constantly evolving algorithms of Google, Youtube and Twitter increasingly organize our digital public spheres. Recommendation engines shape our cultural tastes and patterns of consumption. In this graduate seminar, we examine the practices, cultures and imaginaries of algorithms in organizations and how they get produced and contested in everyday life. Drawing on case studies from fields such as ride-hailing, music streaming, web journalism or criminal justice, we shall explore how algorithms organize work and what work goes into the organization of algorithms.

Learning objectives

Upon completion of this course, you will be able to:

- **Understand and apply key concepts and methods from the interdisciplinary field of algorithm studies,** including organization and management studies, science & technology studies, economic sociology, and media studies.
- **Challenge and unpack entrenched assumptions about algorithms** with a focus on their use in occupational contexts.
- **Design and conduct innovative and effective programs of research** into algorithmic organizing.
- **Write concise and effective literature reviews and reports** based on original research.

Course requirements

This graduate seminar is all about problematizing algorithms in organizational contexts. The following course requirements will be useful to facilitate our conversations:

- Weekly reading response 30%
- Case study 70%

Weekly reading response: You will be expected to produce a 1-2-page response each week that engages key arguments, insights, and findings from the readings. Please bring a printout of the reading notes to the session and hand them over to the instructor at the end of the session.

Case study: Starting from week 1, you will be required to identify and study a specific *case of algorithmic organization*. This can be any organizational setting in which an algorithmic system is salient and consequential. You should decide on your case by week 3 (April 29). You are encouraged to discuss your ideas with classmates and the instructor prior to week 3. You will be required to produce a 10-12 page (double-spaced) final report on your case that engages with theoretical and/or methodological themes from the course. By week 6 (May 20), I would like to see a formal proposal, including a 1-2 paragraph description of the main argument or question, an outline of the anticipated structure of the report, a description of the empirical evidence (if any) you plan to use, and a list of 5-10 published sources you plan to cite or draw on in making your argument. In addition to my comments, you'll receive feedback from your classmates in a dedicated review session on (July 8). Final reports are due in electronic form on July 22 at 6pm. Per standard university guidelines governing plagiarism and academic honesty, all work for the course is expected to be original or appropriately acknowledged.

Class participation and workload

This is a fun but challenging graduate seminar with a significant reading load. If you're struggling with the course in any way, please come and see me as early as possible and we'll talk about strategies, workarounds, and possible accommodations to help you.

Acknowledgments

This seminar is drawing on other excellent graduate seminars, including Malte Ziewitz's *Technologies of Valuation* (Cornell University) and David Stark's *New Directions in Economic Sociology* (Columbia University).

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Schedule

* required readings

Session 1: Introduction (April 8)

No readings for today. We'll familiarize ourselves with the key themes and concerns of the seminar, discuss course mechanics, and start thinking about algorithmic organizing.

Session 2: What is an Algorithm? (April 15)

* Bucher, T. (2018). *If...Then. Algorithmic Power and Politics.* Ch. 2: The multiplicity of algorithms (pp. 19-40).

* Seaver, N. (2017). Algorithms as culture: Some tactics for the ethnography of algorithmic systems. *Big Data & Society*, *4*(2).

Russell, S., & Norvig, P. (2016). *Artificial intelligence: a modern approach. Prentice-Hall, Englewood Cliffs*, Ch 1.1: What is AI? (pp. 1-29).

Session 3: Algorithms in Organizations (April 29)

* Faraj, S., Pachidi, S., & Sayegh, K. (2018). Working and organizing in the age of the learning algorithm. *Information and Organization*, *28*(1), 62-70.

* von Krogh, G. (2018). Artificial intelligence in organizations: New opportunities for phenomenon-based theorizing. *Academy of Management Discoveries, 4*(4), 404–409.

Amabile, T. (2019). Creativity, artificial intelligence, and a world of surprises. *Academy of Management Discoveries*, in press.

Session 4: Algorithms and Control (May 6)

* Rosenblat, A. (2018). *Uberland: How Algorithms Are Rewriting the Rules of Work.* University of California Press. Ch. 5: Behind the curtain: How Uber manages drivers with algorithms (pp. 138-167).

* Christin (2017). Algorithms in practice: Comparing web journalism and criminal justice. *Big Data & Society*, *4*(2).

Session 5: Automation or Fauxtomation? (May 13)

* Fleming, P. (2019). Robots and organization studies: Why robots might not want to steal your job. *Organization Studies*, *40*(1), 23-38.

* Taylor, A. (2018) The automation charade. *LOGIC*. [https://logicmag.io/05-the-automation-charade/]

* Irani, L. (2016) The hidden faces of automation. *XRDS*, 23(2), 34-37.

Session 6: From Strategic Planning to Algorithmic Prediction? (May 20)

* Constantiou, I. D., & Kallinikos, J. (2015). New games, new rules: big data and the changing context of strategy. *Journal of Information Technology*, *30*(1), 44-57.

* MacKenzie, D. (2017). A material political economy: Automated trading desk and price prediction in high-frequency trading. *Social Studies of Science*, *47*(2), 172-194.

Plesner, U., & Gulbrandsen, I. T. (2015). Strategy and new media: A research agenda. *Strategic Organization*, *13*(2), 153-162.

Session 7: Experts and Expertise (May 27)

* Heimstädt, M., & Ziewitz, M. (2019). Expertise without experts? Organizing algorithmic systems in New York City. Working Paper.

* Sachs, S. (2019). *The Algorithm at Work: The Reconfiguration of Work and Expertise in the Making of Similarity in Art*. Dissertation chapter t.b.d.

Eyal, G. (2013). For a sociology of expertise: The social origins of the autism epidemic. *American Journal of Sociology*, *118*(4), 863-907.

Session 8: Classification and Bias (June 3)

* Eubanks, V. (2017). *Automating Inequality: How High-Tech Tools Profile, Police, and Punish the Poor*. St. Martin's Press. Ch. 4: The Allegheny algorithm (pp. 127-173)

* Angwin et al. (2016). *Machine Bias*. ProPublica. Retrieved from: https://www.propublica. org/article/machine-bias-risk-assessments-in-criminal-sentencing

Fourcade, M., & Healy, K. (2013). Classification situations: Life-chances in the neoliberal era. *Accounting, Organizations and Society*, *38*(8), 559-572.

Session 9: Transparency and Accountability (June 17)

* Ananny, M., & Crawford, K. (2018). Seeing without knowing: Limitations of the transparency ideal and its application to algorithmic accountability. *New Media & Society*, *20*(3), 973-989.

* Sandvig, C., Hamilton, K., Karahalios, K., & Langbort, C. (2014). Auditing algorithms: Research methods for detecting discrimination on internet platforms. *Data and discrimination: converting critical concerns into productive inquiry*, 1-23.

Kitchin, R. (2017). Thinking critically about and researching algorithms. *Information, Communication & Society*, *20*(1), 14-29.

Crawford, K., Joler, V. (2018). *Anatomy of an AI System*. Retrieved from: www.anatomyof.ai

Session 10: Algorithmic Walk (June 24)

This week students will do an algorithmic exercise on campus. There are no readings for this week. If interested, students can have a look at the following paper before or after the activity:

Ziewitz, M. (2017). A not quite random walk: Experimenting with the ethnomethods of the algorithm. *Big Data & Society*, *4*(2)

Session 11: Case Study Writing Week (July 1)

There will be no class this week. Students shall use this week to advance their case study project and to be able to present their interim report in the following week.

Session 12: Case Study Clinic (July 8)

In this session, students will present their case study project to each other and receive feedback.