Sociology 190  
**Algorithms in Society**  
Fall 2019  

Martin Eiermann  
eiermann@berkeley.edu

Seminar meetings: Mondays, 4-6 PM  175 Barrows Hall  
Office hours: Mondays, 12-2 PM  483 Barrows Hall

Sociologists frequently study how people and things are sorted into different categories according to race, gender, income, education, political allegiance, or criminal records. In the contemporary world, such classification often relies on technologies that process large amounts of behavioral, economic, or demographic data to determine credit scores, calculate the recidivism risk of criminal defendants, structure access to welfare services, allocate police officers to urban neighborhoods, write and curate news, personalize shopping recommendations, determine prices and driving directions, or select matches on dating websites. Each of us is examined by countless algorithms every day, often without realizing it.

Despite their prevalence and significance, algorithmic technologies are commonly relegated to the domain of computer science and regarded as inscrutable pieces of software. Yet they are not just complex technological objects: Algorithms have social histories and tangible consequences in the world. They affect the structure of the social order, facilitate market exchanges, influence politics, and shape our sense of self. They can be studied with the tools of sociology; and studying them sociologically can illuminate the intricate links between technology and society.

In this course, we will (1) explore the links between technology and familiar sociological topics like power, race, gender, and capitalism and (2) familiarize ourselves with sociological theories that aim to make sense of such links. The course does not assume any specific technical knowledge.

**Course readings**

All course readings will be provided in electronic form on bCourses or as links in this syllabus. You do not need to purchase any books. Some readings will inevitably touch on technical aspects of computation or dip into philosophical debates about human agency — but technical and philosophical knowledge is neither a prerequisite nor a focus of this course. I will try to guide you through difficult passages during our seminar meetings.

**Seminar meetings and attendance policy**

We will meet once a week for two hours. Please be prepared to discuss, compare, and critique the course readings. I will sometimes give brief lectures to orient our discussion and clarify difficult readings, but the focus will be on a free and frank exchange of ideas. I will facilitate those discussions and ensure that we cultivate a learning environment where everyone's voice is heard.

Students have different participation styles, and we will change the format of our discussions to allow for different forms of engagement. But if you find it difficult to speak in class, I encourage you to meet with me individually. I can help you to speak with greater confidence.

Please inform me in advance if you cannot attend class. I will deduct participation points if you miss more than two seminars.
Assignments and grading

This seminar is organized around weekly discussions and culminates in an independent research paper. The assignments are designed to facilitate those discussions and to aid your paper-writing. All assignments are double-spaced and should be submitted on bCourses.

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Description</th>
<th>Due Date</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attendance and participation</td>
<td>I expect you to attend our seminar meetings and to contribute actively to classroom discussions.</td>
<td></td>
<td>30%</td>
</tr>
<tr>
<td>4 reading response memos</td>
<td>1-2 page memos that discuss the week's readings. You can turn in these memos during any week, as long as they are all submitted prior to RRR week. Please upload your memos to bCourses on Sunday evening. I will read them before we meet on Monday and might ask you to discuss your memo during class.</td>
<td>Sundays, 8pm</td>
<td>5% per memo</td>
</tr>
<tr>
<td>Paper prep 1: Case selection and data</td>
<td>1-2 pages about an algorithm or a platform of your choice. Why do you find it sociologically interesting? How would you study it? Where would you find data?</td>
<td>October 14, before class</td>
<td>5%</td>
</tr>
<tr>
<td>Paper prep 2: Preliminary findings</td>
<td>2-3 pages about your preliminary findings. What have you learned about your case? Summarize your data — I don't expect any analysis or theory in this memo.</td>
<td>November 4, before class</td>
<td>5%</td>
</tr>
<tr>
<td>Paper prep 3: Theory</td>
<td>1-2 pages about concepts and theories. Choose two or three readings and discuss how they might illuminate your case. If you want to use outside theories, please come to office hours to discuss them.</td>
<td>November 18, before class</td>
<td>5%</td>
</tr>
<tr>
<td>Paper prep 4: Outline</td>
<td>2-3 pages with a summary of your argument. This should provide a detailed overview of your paper’s structure, data, argument, and tentative conclusions.</td>
<td>November 25, before class</td>
<td>5%</td>
</tr>
<tr>
<td>Final paper</td>
<td>15-20 pages about an algorithm or a platform of your choice. I expect you to (1) identify why this technology/platform has sociological relevance, (2) describe in appropriate detail how it operates and what consequences it has in the social world, and (3) analyze it sociologically. This will require you to do some independent empirical research, although I encourage you to rely on books and articles from this syllabus to make theoretical claims.</td>
<td>December 13, midnight</td>
<td>30%</td>
</tr>
</tbody>
</table>

E-Mail and Office Hours

I can easily be reached by email. While I'll do my best to reply quickly, sometimes my work will prevent me from getting to your emails as promptly as I'd like. Fear not: A response is coming!
You can also sign up for my weekly office hours at wejoinin.com/eiermann. Send me an email to request a separate meeting if you cannot meet during my regular office hours and I will do my best to accommodate you. You do not need a set of fully formed questions to attend office hours. If you find a reading particularly interesting, if you want guidance on an assignment, or if you are hesitant to speak in class and prefer a more individualized setting, I hope that you will come to see me.

**Disabled Students Program**

If you have a documented need for special accommodations, please forward your DSP letter as soon as possible to work out the necessary arrangements.

**Academic honesty**

You must submit original work, cite your sources, and in no way misrepresent your work or the work of your peers. If you are unsure what constitutes cheating or plagiarism, please familiarize yourself with Berkeley's code of student conduct at sa.berkeley.edu/student-code-of-conduct. Remember that it is always better to hand in an incomplete assignment or to ask for an emergency extension than to submit dishonest or plagiarized work.

**Campus Resources**

*Student Learning Center:* Located in the Cesar Chavez Student Center, the SLC offers academic support through tutoring, study groups, and workshops. Contact them at 510-642-7332.

*Counseling and Psychological Services:* Mental health resources are available through University Health Services. Contact the Tang Center at 510-642-9494 or after hours at 855-817-5667.

*Social Services:* Located at the Tang Center, the office provides confidential services and counseling to help students with financial, academic, legal, and family problems, substance abuse, pregnancy, and sexual violence. Contact them at 510-642-6074.
Weekly calendar and readings

Part I: Technology and the social order — We situate technologies in their social environments and examine how algorithms reflect, reinforce, or reorder social hierarchies.

September 2: LABOR DAY — NO CLASS.

September 9: Algorithms and society

- What can social science contribute to the study of technology?
- What does it mean to think of algorithms as black boxes?


September 16: Do algorithms have politics?

- How can the design of platforms and algorithms be “political” in itself? This week, we encounter four perspectives on this question that respectively emphasize the fundamental design of technological systems, the practical choices made by systems designers, the theories that inform the operations of such systems, and the concrete interests of businesses.


September 23: Biased inputs and the power of feedback loops

• What are feedback loops, and why do they matter?
• If you have never encountered terms like “training dataset” before (that’s okay!!), take a quick look at this primer before you do the readings: https://elitedatascience.com/model-training.


Dastin, Jeffrey. “Amazon scraps secret AI recruiting tool that showed bias against women.” Reuters, October 9, 2018. Available at: https://www.reuters.com/article/us-amazon-com-jobs-automation-insight/amazon-scraps-secret-ai-recruiting-tool-that-showed-bias-against-women-idUSKCN1MK08G.

---

September 30: Algorithmic outputs and the imposition of social order

• How is economic behavior at the individual level related to social order at the aggregate level?
• What is “emergent bias”, and how does it relate to the issues we discussed in prior weeks?


---

October 7: Human labor and machine labor

• What is the relation between algorithms and human labor?
• *Does a greater reliance on computation imply the absence of ideology?*


---

**Part II: Algorithmic societies — We consider what it means to live in a world where algorithms are pervasive and where data has become an important commodity.**

*October 14: Algorithms and the self*

• *What is unique about “soft biopolitics”?

• *How is our sense of self affected by technology?*


**PLEASE SUBMIT YOUR PAPER TOPIC IDEAS (1-2 PAGES)!**

*October 21: Algorithms and markets*

• *How do markets “see” customers and clients?

• *Which financial logics underpin credit ratings or dynamic pricing?*


October 28: Data capitalism

- What is a “fictitious commodity”?
- How does the commodification of data affect algorithm design and user experiences?


November 4: Algorithms and the state

- How do people become knowable and known to the state?
- How have state practice and state knowledge changed in the twenty-first century?


PLEASE SUBMIT YOUR PRELIMINARY FINDINGS (2-3 PAGES)!

November 11: VETERANS’ DAY — NO CLASS
November 18: Data and democracy

- How is the political system affected by technology?
- Social media algorithms often optimize for user engagement. What are consequences of, and alternatives to, this logic?


Kobie, Nicole. “The complicated truth about China’s social credit system.” WIRED Magazine, June 7, 2019. Available at: https://www.wired.co.uk/article/china-social-credit-system-explained


PLEASE SUBMIT YOUR THEORY MEMOS (1-2 PAGES)!

November 25: Law and culture as midwives of change

- We zoom out and consider the broad cultural and legal frameworks that can facilitate technological change, or can redirect the path of technological evolution
- Can you identify the cultural and legal prerequisites for a particular algorithm or platform?


PLEASE SUBMIT YOUR OUTLINES (2-3 PAGES)!

December 2: Concepts for an algorithmic age
• We consider various theories that aim to make sense of the possibilities and challenges of technology.
• Recall the concepts we have already encountered, e.g. black boxes/performativity/data commodification/biopower/algorithmic selves/programmed sociality. Which do you find most useful for making sense of the present world?


