COMM 497SL:
Social Life of Algorithms
Spring 2020

Dr. Burcu Baykurt
Assistant Professor
Department of Communication

Meetings: Tues/Thurs 2:30-3:45 Hasbrouck Laboratory Room 138

Office Hours: Tues: noon-2 pm or by appointment

Contact Information:
Office: N356 Integrative Learning Center
Email: bbaykurt@umass.edu
Twitter: @bubaykurt

* I will respond to emails within 48 hours of receiving them. I will try to respond faster during the lead-up to assignment deadlines and presentations. Feel free to send a follow-up email if you do not hear back after 48 hours.

Course Description
Algorithmic systems are at the center of today's digital world, and mediate communication processes in areas as diverse as social media, journalism, healthcare, cities and even governments. How do algorithmic systems capture, represent, and transmit information about everyday interactions? How do they shape, and are shaped by, social, cultural, and political life? What kind of new issues and concerns arise from their ubiquitous use? This course provides a critical introduction to algorithmic systems, and how they relate to issues of communication, power and inequalities in society. In addition to reading responses and a midterm essay, students will complete a research project on an algorithmic system of their choice to unpack how they are constructed and used in everyday life.

Course Objectives

Integrative Experience: The seminar fulfills the General Education Integrative Experience requirement for Communication majors. According to the General Education Council:

"The Integrative Experience (IE) requirement at UMass Amherst addresses the challenges associated with educational fragmentation. Positioned in the upper-division, the IE provides students with a structured opportunity to look back on their early college learning experiences, reflect upon and make connections between those earlier experiences and the more advanced work in their major, and use their integrated learning to prepare for the demands of the world beyond the University."

Throughout the semester you will have the opportunity to reflect on and integrate learning and experience from your General Education and Communication courses by completing a range of assignments. Weekly discussion posts will ask you to respond to academic texts by bringing in examples from your own interactions with algorithmic systems, thereby allowing you to combine the knowledge and critical analysis skills you have gained in upper-level communication courses. The midterm essay will require analyzing a recent news story that documents an algorithmic controversy, and you will have the opportunity to practice critical thinking and interdisciplinary perspective-taking as you unpack how this controversy is framed and how you'd explain it from a perspective that recognizes both the technical and social challenges involved in algorithmic systems. The final project, which is an audit study of how an algorithmic system operates, offers an opportunity to apply your prior learning in General Education and Communication classes to real-world problems. Throughout the semester, in-class discussions will encourage you to practice oral communication and collaboration as we will collectively identify the connections and divergences between the readings and varied experiences with algorithmic systems.

By the end of the class you should be able to:
- Identify content, interactions, and habits that are shaped by algorithmic systems.
- Demonstrate and critically analyze what kind of values and goals inform the architecture of algorithmic systems.
- Explain different mechanisms through which algorithmic systems reproduce and reinforce inequalities.
- Apply these mechanisms to deciphering the effects and consequences of existing algorithmic systems.

Course Materials
There is no required textbook for this course. All course material will be available via Moodle in PDF format.

Attendance

Attendance is mandatory. You are allowed two excused absences for the semester ("excused" means you should contact me before class begins in order for them to count). More than that (or any unexcused absences) will affect your grade. Three or more excused or unexcused absences means you will fail the course. Make sure you email me before you miss any class.

Participation

Participation - attending classes, participating in discussions, having assigned readings done *ahead* of class, and assignments done on time – is crucial in such a discussion-based class and with a dense reading load. You should feel that the class is a safe environment to voice opinions, try out new ideas, and comment on readings and events. I realize that not everyone will be able to participate in each class, but please make an effort to participate as often as you can.

Discussion Posts

Before each class, post one question or observation based on the weekly readings on Moodle. The post should be an honest question or observation sparked by the readings – something you really want to figure out the answer to. If there are any examples that inspire your question, please note those down too. Every week you should respond to another student's question or observation to sustain a collective conversation on the board. We will use all these posts to help direct our discussions in the classroom.

Assignments

Throughout the semester you will write two papers. For the first paper, you will undertake a critical analysis of an "algorithmic controversy" in the news. We will talk about what an algorithmic controversy constitutes in class. Once you pick your example, you will describe it in detail, demonstrate why it causes a public concern, discuss its consequences in practice, and offer potential alternatives.

For the second paper, you will design an "algorithmic audit" of at least two social media platforms or apps you frequently use. Again, we will discuss what an algorithmic audit is and how you can go about it. For this paper, first you will offer a proposal that details how you plan to conduct research, why you choose the platforms/apps you choose, what you expect to find, and which readings you think your research will be in conversation with. Instead of a final exam, you will conduct this audit research and write an analytical paper that ties your findings to the theoretical discussions we have in class. I will provide more detailed instructions on this project as the semester progresses.

Due Dates
- Midterm essay "Algorithmic Controversy" (2000 words): March 5
- Research proposal "Algorithmic Auditing" (500 words): March 27
- Final research paper "Algorithmic Auditing" (no more than 4000 words): April 30

Evaluation Rubric
- Attendance and class participation: 15%
- Response questions: 15%
- Midterm essay: 25%
- Final Research Proposal: 10%
- Final Research Paper: 35%

Grading Scale

Percentage Total	Grade
93-100%	A
90-92%	A-
87-89%	B+
83-86%	B
80-82%	B-
77-79%	C+
73-76%	C
70-72%	C-
67-69%	D+
63-66%	D
60-62%	D-
59% or below	F
Incomplete	INC

I am always happy to discuss grades. I have two requests though. First, wait 48 hours between getting your grade and contacting me. This will give you time to go over the assignment and review the comments you have received. Second, bring specific questions when you come to chat. Where exactly do your expectations diverge from the grade? What comments or questions are you having trouble wrapping your head around? This will help us start a productive discussion.

Submitting Assignments

Unless otherwise instructed, please submit all assignments via email. Please include your name and the assignment title in the file name.

Late Policy

Unless prior permission has been granted, no late work is accepted. This policy is in place to ensure every student has their work returned to them in a timely fashion. Please prepare in advance so that you will not encounter technical difficulties that may prevent submission of a given assignment. If you have a conflict with the due date, assignments can always be submitted early. I may grant extensions on assignments if you provide three days' notice and can send me evidence that you are working on an idea that requires more time. Do not ask for an extension if you have not started writing yet. Late assignments will be docked a half grade (+/-) per day (i.e. after 10 days, you cannot earn a grade higher than F).

How to Read?

While we will not read a whole book each week, I'd highly encourage you to take a look at this guide to develop your strategies for completing readings in the most efficient and effective way possible. Paul Edwards. "How to Read a Book"
http://pne.people.si.umich.edu/PDF/howtoread.pdf

Electronic Devices

The use of electronic devices (phones, tablets, laptops, cameras, etc.) is permitted when the device is being used in relation to the course's work. All other uses are prohibited in the classroom and devices should be turned off before class starts. I know a lot of you will be reading and taking notes on your computers or phones, so if you need that to refer to during discussions, that is of course more than fine. If your devices appear to be distracting you or others, I reserve the right to revoke these privileges immediately and permanently.

Accommodation & Inclusive Learning

Your success in this class is important to me. We all learn differently and bring different strengths and needs to the class. If there are aspects of the course that prevent you from learning or make you feel excluded, please let me know as soon as possible. Together we'll develop strategies to meet both your needs and the requirements of the course. There are also a range of resources on campus, including:

• Writing Center - http://www.umass.edu/writingcenter
• Learning Resource Center - http://www.umass.edu/lrc
• Center for Counseling and Psychological Health (CCPH) -
http://www.umass.edu/counseling
• English as a Second Language (ESL) Program - http://www.umass.edu/esl

If you have a documented physical, psychological, or learning disability on file with Disability Services (DS), you may be eligible for reasonable academic accommodations to help you succeed in this course. If you have a documented disability that requires an accommodation, please notify me within the first two weeks of the semester so that we may make appropriate arrangements.

Academic Honesty
Academic dishonesty is prohibited in all programs of the University. Academic dishonesty includes but is not limited to: cheating, fabrication, plagiarism, and facilitating dishonesty. Appropriate sanctions may be imposed on any student who has committed an act of academic dishonesty. Since students are expected to be familiar with this policy and the commonly accepted standards of academic integrity, ignorance of such standards is not normally sufficient evidence of lack of intent (http://www.umass.edu/dean_students/codeofconduct/acadhonesty/).

The Syllabus is a Living Document
This syllabus is a starting point for the course. It is subject to change as the term unfolds, in response to your feedback and my assessment of how things are going. I'll be seeking out your feedback regularly. Some adjustments are likely. These adjustments may involve altering assignments or adding, removing, or modifying readings. Any changes will be discussed in class and announced via email, so attend class and check your inbox.

Class Schedule:

1. What are Algorithmic Systems? Can We Study Them?

Tuesday, January 21

Kashmir Hill and Surya Mattu. 2018. "The House that Spied on Me." *Gizmodo*. https://gizmodo.com/the-house-that-spied-on-me-1822429852

Douglas MacMillan and Nick Anderson. "Colleges quietly rank prospective students based on their personal data." Washington Post, 14 Oct. 2019.

Thursday, January 23

Langdon Winner. 1980. "Do Artifacts Have Politics?" *Daedalus*. 109(1): 121-136.

Kate Crawford and Vladan Joler. 2018. "Anatomy of an AI System." https://anatomyof.ai/

2. Classification/Surveillance/Traps

Tuesday, January 28

Geoffrey C. Bowker and Susan Leigh Star. 1999. "The Case of Race Classification and Reclassification under Apartheid." In: *Sorting Things Out: Classification and Its Consequences*. Massachusetts: MIT University Press, pp. 195-226.

Thursday, January 30

Nick Seaver. 2018. "Captivating Algorithms: Recommender Systems as Traps." *Journal of Material Culture*, pp. 1-16.

Mark Andrejevic. 2019. "Automating Surveillance." *Surveillance and Society*. 17(1-2), pp. 7-13.

Sophia Ciocca. 2017. "How Does Spotify Know You So Well?" https://medium.com/s/story/spotifys-discover-weekly-how-machine-learning-finds-your-new-music-19a41ab76efe

3. How Does the Machine Learn?

Tuesday, February 4

Cathy O'Neil. 2016. "What is a Model?" *Weapons of Math Destruction: How Big Data Increases Inequality and Threatens Democracy*, pp. 15-31.

Meredith Broussard. 2018. "Machine Learning: The DL on ML." In: *Artificial Unintelligence: How Computers Misunderstand the World*. Massachusetts: MIT Press, pp. 87-119.

Thursday, February 6

Jenna Burrell. 2016. "How the Machine 'Thinks': Understanding Opacity in Machine Learning Algorithms." *Big Data & Society* 3 (1), pp. 1-12.

4. Who Makes Algorithmic Systems?

Thursday, February 13

Fred Turner. 2009. "Burning Man at Google: A Cultural Infrastructure for New Media Production." New Media & Society. 11(1-2): 73-94.

Carol Cohn. 1987. "Sex and Death in the Rational World of Defense Intellectuals." *Signs* 12, no. 4 (1987): 687-718.

5. Political Economy of Algorithmic Systems

Tuesday, February 18

Marion Fourcade and Kieran Healy. 2017. "Seeing Like a Market." *Socio-Economic Review*. 15(1): 9-29.

Matthew Crain and Anthony Nadler. 2017. "Commercial Surveillance State." n+1 Magazine. https://nplusonemag.com/online-only/online-only/commercial-surveillance-state/

Thursday, February 20

Becca Lewis. 2020. "All of YouTube, Not Just the Algorithm, is a Far-Right Propaganda Machine." https://ffwd.medium.com/all-of-youtube-not-just-the-algorithm-is-a-far-right-propaganda-machine-29b07b12430

Kate Crawford. 2015. "Can an Algorithm be Agonistic? Ten Scenes from Life in Calculated Publics." *Science, Technology and Human Values*, pp. 77-92.

6. Algorithmic Self

Tuesday, March 3

Brooke Erin Duffy and Emily Hund. 2015. "'Having it All' on Social Media: Entrepreneurial Femininity and Self-Branding Among Fashion Bloggers." *Social Media + Society*. 1-15.

Taina Bucher. 2012. "Want to be on the top? Algorithmic power and the threat of invisibility on Facebook." *New Media and Society*, pp. 1164–1180.

Thursday, March 5

Natasha Dow Schull. 2016. "Data for Life: Wearable Technology and the Design of Self Care." *BioSocieties* 11(3): 317-33.

Moira Wegel. 2016. "'Fitbit for Your Period': The Rise of Fertility Tracking." *The Guardian*. https://www.theguardian.com/technology/2016/mar/23/fitbit-for-your-period-the-rise-of-fertility-tracking (~ 9 pages).

*** MIDTERM ESSAY DUE MARCH 5 ***

7. Algorithmic Connections

Tuesday, March 17

Nancy Baym. 2018. *Playing to the Crowd: Musicians, Audiences, and the Intimate Work of Connection*, pp. 1-28.

Thursday, March 19

Shuaishuai Wang. 2018. "Calculating Dating goals: Data Gaming and Algorithmic Sociality on Blued, a Chinese Gay Dating app." *Information, Communication & Society*. pp. 1-17.

Gaby David and Carolina Cambre. 2016. "Screened Intimacies: Tinder and the Swipe Logic." *Social Media + Society*, pp. 1-11.

8. Algorithmic Discrimination/Inequalities

Tuesday, March 24

Ruha Benjamin. 2019. "Introduction and "Engineered Inequity." In: *Race After Technology*, pp. 1-76.

Julia Angwin, Jeff Larson, Surya Mattu, and Lauren Krichner. 2016. Machine Bias. *ProPublica*. https://www.propublica.org/article/machine-bias-risk-assessments-in-criminal-sentencing

Latanya Sweeney. 2013. "Discrimination in Online Ad Delivery." ACM Queue 11(3): 1-36.

Thursday, March 26

Virginia Eubanks. 2018. *Automating Inequality: How High-Tech Tools Profile, Police, and Punish the Poor*. [Selections]

Mar Hicks. 2019. "Hacking the Cis-tem." *IEEE Annals of the History of Computing,* pp. 20-33.

Os Keyes. 2019. "Counting the Countless." *Real Life Magazine*. https://reallifemag.com/counting-the-countless/

*** PAPER PROPOSAL DUE MARCH 30 **

9. Algorithmic Labor

Tuesday, March 31

Alex Rosenblat and Luke Stark. 2016. "Algorithmic Labor and Information Asymmetries: A Case Study of Uber's Drivers."

Brian Merchant. 2019. "Why Self-Checkout Is and Has Always Been the Worst." *Gizmodo*. https://gizmodo.com/why-self-checkout-is-and-has-always-been-the-worst-1833106695

Thursday, April 2

Caitlin Petre. 2018. "Engineering Consent: How the Design and Marketing of Newsroom Analytics Tools Rationalize Journalists' Labor." Digital Journalism. 6(4): 509-527.

10. Algorithmic Politics

Tuesday, April 7

Francesca Tripodi. 2019. "Devin Nunes and the Power of Keyword Signaling." *Wired*. https://www.wired.com/story/devin-nunes-and-the-dark-power-of-keyword-signaling/

John Keegan. 2019. "Blue Feed, Red Feed: See Liberal Facebook and Conservative Facebook Side by Side." *The Wall Street Journal*. http://graphics.wsj.com/blue-feed-red-feed/

Thursday, April 9

Daniel Kreiss and Shannon C. McGregor. 2018. "Technology Firms Shape Political Communication: The Work of Microsoft, Facebook, Twitter, and Google With Campaigns During the 2016 U.S. Presidential Cycle." *Political Communication*, pp. 155-177.

11. Algorithmic Cities

Tuesday, April 14

Shannon Mattern. 2017. "A City is not a Computer." *Places Journal*. https://placesjournal.org/article/a-city-is-not-a-computer/

Andrew J. Hawkins. 2019. "Alphabet's Sidewalk Labs unveils its high-tech 'city-within-a-city' plan for Toronto." *The Verge*. https://www.theverge.com/2019/6/24/18715486/alphabet-sidewalk-labs-toronto-high-tech-city-within-a-city-plan

Tuesday, April 16

Alana Semuels. 2018. "What Amazon Does to Poor Cities." *The Atlantic*. https://www.theatlantic.com/business/archive/2018/02/amazon-warehouses-poor-cities/552020/

12. Governing and Organizing Against Algorithms

Tuesday, April 21

Nicholas Diakopoulos and Sorelle Friedler. 2016. "How to Hold Algorithms Accountable." *MIT Technology Review*.

Algorithmic Accountability Toolkit by *AI Now*. 2018. https://ainowinstitute.org/aap-toolkit.pdf

Thursday, April 23

Sasha Costanza-Chock, Maya Wagoner, Berhan Taye, Caroline Rivas, Chris Schweidler, Georgia Bullen, & the T4SJ Project, 2018. #MoreThanCode: Practitioners reimagine the landscape of technology for justice and equity. *Research Action Design & Open Technology Institute*. https://morethancode.cc.

Jason Del Rey and Shirin Ghaffary. 2018. "Amazon employees hope to confront Jeff Bezos about law enforcement deals at an all-staff meeting." *Recode*. https://www.vox.com/2018/11/5/18062008/amazon-ice-we-wont-build-it-all-hands-meeting-law-enforcement-rekognition

13. Review and Closing Thoughts

Tuesday, April 28

*** FINAL RESEARCH PAPER DUE April 30 ***