

SI 710-131 Algorithms and Societal Implications

Fall 2021 Syllabus

Professor: Dr. Nazanin Andalibi

Note: This syllabus is subject to change and updates; students will be notified in class (when applicable) and via Canvas (always). Please check Canvas regularly to receive updates.

Colleagues: Please feel free to use this syllabus if it is helpful, and if you do so, I would appreciate if you drop me a line so I can keep track and learn from your syllabi as well.

Class meetings: Wednesdays 5:30-8:30 pm

Class location: NQ 1265

Professor: Dr. Nazanin Andalibi

- Email: andalibi@umich.edu
- Student hours: Tuesdays, 10am-12pm EST or by appointment
- Office: NQ 3372
- Student hours location: <https://umich.zoom.us/my/dr.andalibi>
- More info about the instructor: nazaninandalibi.net

Course Summary

It is hard to go a day without encountering news about algorithms. This doctoral seminar course examines algorithms' roles in our lives and their social, individual, ethical, political, and other implications. While algorithms are not new, we continue to see broader interest in studying their impact on society as evidenced by congressional hearings, calls/reports from the National Science Foundation and Computing Research Association, growing research centers in industry and academia (Microsoft Research, Data & Society, etc), and conferences (e.g., ACM Conference on Fairness, Accountability, and Transparency (FAcCT*)).

The course will take a multidisciplinary approach surveying research from computer science, science and technology studies (STS), library and information science, communication, business, law/policy, philosophy, public health, and psychology. The course will particularly focus on interrogating contexts in which algorithms fail in respecting the values of marginalized communities, or worse, when they pose risk or cause harm. As such, issues of human rights, justice, wellbeing, privacy, and autonomy, are examples of discussion topics we will have.

There are many important topics relevant to algorithms and their implications. While this is exciting, it also means that we can't possibly cover everything in this course. That also means that I strongly encourage you to go beyond the class material in developing your ideas and thinking, and to share those with the rest of us so we can all learn from each other. I invite you to add your own interests to the classroom experience, and use this class to inform your broader research interests and trajectories.

This is a seminar, reading-based, course. It is structured around discussions, readings, writing, and other critical engagement with related topics. Intellectual participation and thoughtful engagement will be key to everyone's learning and this course's success. I look forward to learning with you.

Learning Objectives

- Thinking critically about algorithms and their implications and asking important scholarly questions about algorithms and their implications
- Developing and communicating informed stances on ongoing societal and scholarly conversations about algorithms and their implications
- Synthesizing and connecting literature about related topics from diverse disciplinary perspectives
- Writing and presenting a research paper relevant to one's scholarly interests and research agenda

Before we get started, I want to acknowledge that the past couple of years have been tough. At the time of this writing, I do not know what this new year will have in store for us. I also do not expect the trauma and difficulty of the past couple of years to just evaporate. As such, I aim to be flexible and accommodating. Please reach out to me if you are experiencing challenges and we can discuss how to adjust the course to meet your needs. The main goal here is for us to learn together and enjoy the process.

For the safety of all students, faculty, and staff on campus, it is important for each of us to be mindful of safety measures that have been put in place for our protection. By returning to campus, you have acknowledged your responsibility for protecting the collective health of our community. **Your participation in this course on an in-person basis is conditional upon your adherence to all safety measures mandated by the State of Michigan and the University, including being vaccinated or receiving an exemption, and properly wearing a face covering in class.** Safety measures are described in the [Wolverine Culture of Care](#) and the [University's Face Covering Policy for COVID-19](#). Your ability to participate in this course in-person as well as your grade may be impacted by failure to comply with campus safety measures. Individuals seeking to request an accommodation related to the face covering requirement under the Americans with Disabilities Act should contact [Office for Institutional Equity](#).

Since the COVID-19 situation is ever-changing, please be sure to reference the **[FAQ page on the Maize and Blueprint](#)** website throughout the semester. The latest information will be posted there if/when things change. A couple of key points in effect as of our first meeting:

- Students and Faculty **must be vaccinated** to be in class on campus and must report their vaccination status to the university. If you are a rare exception to this rule and received an **exemption from the university**, you are **required to test regularly**.
- We **must all wear face coverings** that are 2 layers thick when in buildings. As of now there is no social distancing required in classrooms, but room 1255 NQ is larger than we need (84 seats, 40 students), so we will maintain distance from others when not doing group work to be extra-safe.

- I know this one is rough because we have class during dinner time, but we are **not allowed to eat or drink in classrooms** because it would require unmasking. We do typically take a short break during class since it's a 3-hour stretch, so you can step outside briefly for a snack if you need to.
- If you are symptomatic, you need to get **tested**. If you are sick, please absolutely do not attend class in-person. You may be required to **isolate or quarantine**.

Class Recordings

We will be doing audio and video recording of the class sessions to enable those who cannot attend class in person on a given day to access the content – that said, this is a seminar, discussion-based course, and I don't expect these recordings to be very helpful. These recordings will not be made available publicly. Recordings of all sessions will be available on Canvas only to students registered for this class. As part of your participation in this course, you may be recorded. If you do not wish to be recorded, please contact us during the first week of class to discuss any possible alternative arrangements. The camera only picks up the front of the room, but this may require you to sit in a particular place in the room, outside the cameras' view.

Our classroom, NQ 1265 does have a ceiling mic that picks up student voices. Further, students may not share these sessions with those not in the class, or upload them to any other online environment (this is a violation of the Federal Education Rights and Privacy Act (FERPA)).

Personal recordings are prohibited except with permission. Students are prohibited from recording/distributing any class activity without written permission from the instructor, except as necessary as part of approved accommodations for students with disabilities. Any approved recordings may only be used for the student's own private use.

Assignments

Students in this course will engage in several types of activities as described below.

Class participation (25 points, every class)

You are expected to come to class prepared to discuss the readings and the ideas they represent in thoughtful ways. Note that, as with most communication, quality counts more than quantity. Dominating class discussions or saying something just to hit a participation metric is not the goal here; providing insights, building on others' ideas, respectfully disagreeing, and contributing to the discussion in meaningful ways is.

I will be comfortable with pauses and silence. I think that is a necessary part of thoughtful discourse.

Some questions to consider that may inform our discussions in class:

- What is the topic/area/research question(s)?
- What are the mechanisms or theoretical frameworks guiding the project's focus, conclusions, or design?
- What are the study's methods (and how do they relate to the research questions and theoretical framework)?

- What is the disciplinary framework the author(s) are working within or in conversation with?
- What are the publishing norms shaping this paper? How does it differ from other papers we have read?
- What studies, academic communities, or other authors is this piece in conversation with?

Leading discussion (23 points) (due the session you are signed up for)

In week 1 and during class, you will pick one week during which you would like to lead a portion of the session's presentation and discussion. The first student will lead a discussion in week 3. For your selected topic you will:

Prepare a 30-minute presentation that introduces the topic and expands on the assigned readings, such as by providing more background or context for the papers, describing additional research papers not covered in class, or considering the implications of the work. Your goal is to highlight important aspects of the readings or topic and to go a bit deeper, connecting them back to other concepts from class or your own reading and expanding the concepts covered.

We will start this activity in week 3. To ensure this will be a smooth and successful, I ask that you plan ahead and set up a meeting with me the week before you are due to lead a discussion – please come to the student hours, unless that time doesn't work for you, because it will be easier to coordinate. I strongly suggest setting this meeting up as soon as you know which week you are going to present so that we can ensure we have some time together. Come to this meeting with your ideas and a slide deck (it doesn't have to be pretty) and be prepared to communicate to me how you are planning on running the discussion, if you are planning any activities, if you have any questions, etc. I will provide feedback and suggestions as needed. We will do this the week before to ensure that you will have time to incorporate any feedback and that the discussion will be successful.

Weekly responses and discussion questions (22 points, due at 3pm EST the day before the class on Tuesdays)

Each week's readings share a focus. I expect that students will make connections between different topics as we go through the semester. Most weeks include required and recommended readings. The recommended readings are no less interesting (this label is not a sign of *importance per se*), so I strongly suggest at least skimming them and definitely reading them if they are aligned with your research. Some of the recommended readings are those I believe may have been assigned in other courses or reading groups.

Starting week 2, you will be expected to read and provide comments and questions about readings before class via weekly reading responses and discussion questions. There is a total of 11 weeks for these assignments (2 points each).

In these responses, you will reflect on questions such as the following:

- What did you find particularly interesting, counter-intuitive, or troubling about this work?
- What research question(s), methods, or future research was suggested by the readings in your opinion?

- What alternative explanations should the author(s) have considered?
- How does this work speak to (or ignore) other work we've discussed this semester?
- What concepts are particularly useful for your own work?

These responses will have two components:

- working through and synthesizing your thoughts about the readings and topic area -- we may organize class discussions around the ideas you raise, and
- sharing 2-3 discussion questions (1 – 3 sentences each) informed by the readings and your own engagement with them. These questions can focus on any aspect such as the findings, the method, the theory, and should provide interpretation, critique, or an extension of the work. These should be ideas you are excited to talk about in class! You should feel free and are encouraged to go beyond the course readings and draw connections between our readings and what you find.
 - while these will be discussion posts, I expect that you will write professionally and use common writing practice, citations, etc.

These will be due on Canvas in form of Discussion posts, and **due at 3pm the day before the class**. This is because we want to make sure that we can consult others' posts *before* the class. I encourage you to check Canvas before the class to read your peers' contributions, especially if it is a topic that is closely related to your own work.

Note: I am NOT looking for a summary of the readings or for you to “prove” that you have done the reading – that is my assumption. I am looking for reactions, responses, and ideas sparked by the readings. This is an exercise designed to encourage intellectual engagement, not a strategy to determine who has done the readings.

Research paper (25 points) and presentation/Q&A (5 points) (Due Dec 8, at 5:30pm)

Format of the paper could take one of three options. I am happy to work with you to find a topic and approach that supports your long-term research goals. In fact, I strongly encourage you to make this course useful to your longer term interests. There is not a rough number I could give for how many references to engage with. Your paper should have an explicit link to algorithms and their implications, of some sort:

1. Literature review setting up a research question. For this option, you would do a ‘deep dive’ into the argument or research question you are proposing. The majority of the text will be a well-written synthesis of the relevant literature on a particular topic. This would take the form of: “everything we know about X, within the boundaries of Y, organized around the concept of Z.”

2. Study proposal. For this option, you would conduct a literature review and synthesize relevant studies, being sure to forward a particular argument in your setup. It should NOT be a chronologically ordered list of commonly-cited papers. You should conclude with one or more explicit research questions or hypotheses, or they can be interspersed throughout the paper, or you can summarize with a paragraph that highlights the knowledge gap you are identifying. Then, write a brief methods section that describes a study that you could feasibly do with some funding and time. Your paper should include a rationale for why is this an important topic to study, why your proposed methods and approach are appropriate, and the implications your findings would have. The literature review for this will be less comprehensive than option 1.

3. Your choice! Suggest an alternative format that will help you achieve your scholarly goals. Please talk to me about your plans before starting. You should draw from class concepts and readings, but you do not need to privilege readings from the class, nor should your paper limit itself to these readings. Indeed, you will definitely want to go beyond the syllabus.

Note: I do not want to limit you to this course project; that is, if you want to actually carry out a study, I am happy to discuss that with you too. If there is something I am also excited about, I am also open to exploring collaborations after the course is over.

What will you turn in? In week 6, you will turn in a description of your paper (submit on Canvas) and present the idea to the class in order to receive feedback. The description should not be more than 1 page, and should include your idea/thesis and a rationale for why this topic is important to study. You can but do not have to use slides (and do not need to submit them to me). That said, I find that it is helpful to keep the audience engaged and help their memory; but do not worry about the aesthetics of your slides. Think of this as communicating enough details to the class that would allow you to gather rich feedback that would be helpful to you. This will not be graded and is intended to scaffold your process, but I will give you feedback and the rest of the class will give you feedback during the session.

The final paper should be approximately 10-12 pages (double-spaced, 11 or 12 pt font) – it can be one to two pages longer than 12 if you need a bit more space, should not be shorter than 10 (plus the bib and any endnotes, which are not included in this page count). It should include proper citation practices and a full bibliography formatted in APA style. You do not need to include an abstract. Do include a title page, but it should not be included in the page count.

Please submit as a Word file unless you use something else to write, in which case a PDF is fine.

During the last class, we will meet to discuss papers, so please prepare a short presentation that includes an overview of your topic, research question, literature review, and findings or arguments (as applicable). Please note this meeting replaces a final exam. We will have some time for Q&A from the class and we may have external guests to participate in this Q&A as well.

Note: If we happen to need more time during the semester or want to discuss another topic for which we did not have time, we may use the last class's time for discussion, and meet the same time the following week during the exam week for this final presentation that replaces the final exam.

The final presentations will be short (10 minutes max) so you will need to be concise and strategic. Because we have limited time, I will have to cut you off if you go over 10 minutes as much as I would not want to. You do not need to use the whole 10 minutes. You do not need to communicate *everything* in this short time; think of it as a practice to communicate about an important idea to an audience, give them something to think about when they walk away. This is something you will need to do over and over in your career, so this is good practice. You will submit this to Canvas.

Grades, Communication, and Resources

You should do good work in this class because you care about it. I strongly suggest not worrying about grades and just focusing on good work and sharing your intellect with the class! That said, we must adhere to university policy and use grades, so here is how grades will work in this class:

- ★ Class participation (25 points)
- ★ Weekly responses/ Discussion questions (22)
- ★ Discussion presentation/topic leader (23)
- ★ Research paper and presentation (30 points)

TOTAL: 100 points possible

Final grades will be recorded as letter grades using the following scale:

A+	97 - 100
A	93 - 96
A-	90 - 92
B+	87 - 89
B	83 - 86
B-	80 - 82
C+	77 - 79
C	73 - 76
C-	70 - 72

Late Policy

This class is based on readings and discussions. For this reason, it is important that you finish your assignments on time and come to class prepared to discuss them. To encourage timely completion of assignments – and, thus, your ability to fully participate in the class – late assignments will be penalized 20% per 24-hour period. Unexcused reading responses will not be accepted. In some cases, extensions may be granted. Students must communicate with the instructor before the deadline if at all possible.

Grade Discrepancies

Students are responsible for viewing their grades in Canvas and informing the instructor of any discrepancies within seven days (after seven days, no adjustments will be made to grades). Students must keep copies of any work submitted until final grades are submitted. No petitions for grade adjustments will be considered after December 10 - after this, the only basis for changing your grade will be to correct instructor errors in recording or calculating your grades.

Re-grading Policy

If you feel that the merit of your work on any assignment has not been fully recognized, you may choose to submit the assignment for re-grading within 7 days after grades are released for that assignment. To submit work for a re-grade, you must explain in an email why you feel your work deserves re-grading. You should provide details and point to specifics in the assignment that you feel merit a higher grade. One of three outcomes is possible: your grade may be raised, it

may remain the same, or it may be lowered. The re-grade is final, even if it is lower than the original grade. You can only ask for a re-grade twice (two times in the semester).

Extra Credit

Extra credit assignments may be assigned throughout the semester at the instructor's discretion. Students are responsible for checking that Canvas has correctly registered their participation and will have one week after extra credit grades are uploaded to inform the instructor about any problems (after this, scores will not be adjusted). Regardless of how many extra credit opportunities are offered, students can receive a maximum of 3 points in extra credit during the semester.

Attendance and Class Participation

Your in-class group activities and class participation grade both rely on you being in class. If you are absent, you are responsible for catching up.

Missing Class Due to Illness or Emergency

If you are sick please do not come to the classroom.

UMSI recognizes the extreme circumstances surrounding this academic term. We strive to provide an inclusive environment and to support the academic success of all students. If you experience illness or emergency during the term, please inform me before (if possible) class that you cannot participate in class. If you cannot participate due to illness or emergency, the instructor will provide as much support and flexibility as possible for you to complete the course when you are able. If you have ongoing physical or mental accommodation needs, you can contact the Services for Students with Disabilities Office (734-763-3000; ssd.umich.edu/). If you will be out for an extended period, or if you need additional academic support, please contact the doctoral program team.

Communication with the Instructor

Please use “[SI 710]” at the start of the subject header in emails you send to me. You are welcome to come to the student hours. That is to say, my office door is open, and you should feel free to stop by. I am here (or there) to help and am excited to learn about your PhD work.

While I will do our best to respond to your inquiries as soon as possible, you can expect that it may take us me to 2 work days to respond to your emails. Questions that require discussions lengthier than a short (5 minutes or less) response will be better addressed in student hours. Please do not expect email responses on weekends or over holidays. If you need a response by a certain time, please make sure to plan accordingly.

Some Guidelines for Dialogue within the Classroom

We will do our best to:

1. Maintain confidentiality. We want to create an atmosphere for open, honest exchange.
2. Commit to learning from each other. We will listen to each other and not talk at each other. We acknowledge differences among us in backgrounds, skills, interests, identities and values. We realize that it is these very differences that will increase our awareness and understanding through this process.
3. Not demean, devalue, or “put down” people for their experiences, lack of experiences, or difference in interpretation of those experiences.

4. Trust that people are always doing the best they can. We will give each other the benefit of the doubt. We will assume we are all trying our hardest and that our intentions are good even when the impact is not.
 5. Challenge the idea and not the person. If we wish to challenge something that has been said, we will challenge the idea or the practice referred to, not the individual sharing this idea or practice.
 6. Speak our discomfort. If something is bothering us, we will share this with the group. Often our emotional reactions to this process offer the most valuable learning opportunities.
 7. Step Up, Step Back. We will be mindful of taking up much more space than others. On the same note, empower ourselves to speak up when others are dominating the conversation.
 8. Not to freeze people in time. We are all works in progress. We will be willing to change and make space for others to do so. Therefore we will not assume that one comment or one opinion made at one time captures the whole of a person's character.
- *The Program on Intergroup Relations, University of Michigan, 2012*

Accessible Teaching and Learning Environment

I know that courses at UM and UMSI can be demanding, but that is because we want you to be able to learn, explore, and reach your full potential. I aim to create an accessible environment for teaching and learning in my classroom. Each of us comes to class with different assumptions, values, and opinions. Rather than being in the way, however, I see such differences as valuable starting points for building the community I hope we build over the course of the semester.

If you find that any aspect of the course creates a barrier to you achieving your learning goals and objectives, please reach out to me and we can discuss how we can adjust to meet your needs. You can reach me via email, student hours, or by appointment.

I also want to let you know about the following resources that might help you find the School of Information, and the University at large, more accommodating:

- UMSI Office of Academic and Student Affairs (OASA): 333 Maynard (5th floor, Collegian building, which is located next to the Maynard entrance to Nichols Arcade)
- Counseling and Psychological Services (CAPS): (734) 764-8312
- Psychiatric Emergency Services (U of M Hospital): (734) 996-4747
- Sexual Assault Prevention and Awareness Center (SAPAC) 24-Hour Crisis Line: (734) 936-3333
- Services for Students with Disabilities (SSD): (734) 763-3000
- Sweetland Center for Writing: <https://lsa.umich.edu/sweetland/undergraduates.html>

If you ever need, or want, assistance navigating and making use of these resources, please don't hesitate to ask me. I am here to be your advocate.

Accommodation for Students with Disabilities

If you think you need an accommodation for a disability, please let me know at your earliest convenience. Some aspects of this course, the assignments, the in-class activities, and the way the course is usually taught may be modified to facilitate your participation and progress. As soon as you make me aware of your needs, we can work with the Services for Students with Disabilities (SSD) office to help us determine appropriate academic accommodations. SSD

(734-763-3000; <http://ssd.umich.edu>) typically recommends accommodations through a Verified Individualized Services and Accommodations (VISA) form. Please present this form to me at the beginning of the term, or at least two weeks prior to the need for the accommodation. Any information you provide is private and confidential and will be treated as such.

Student Mental Health and Wellbeing

I support your health and wellbeing. If you are experiencing a physical or mental health challenge, trauma, grief/loss or some other personal life challenge, and an adjustment of course timelines can help you work through it, please come talk to me as soon as you can so we can discuss how to best accommodate your needs. I encourage all of you to try to get enough sleep, to prioritize taking care of yourself, and to try to find social support from people around you.

The University of Michigan is committed to advancing the mental health and wellbeing of its students, while acknowledging that a variety of issues, such as strained relationships, increased anxiety, alcohol/drug problems, and depression, directly impact students' academic performance. If you or someone you know is feeling overwhelmed, depressed, and/or in need of support, services are available. For help, contact Counseling and Psychological Services (CAPS) at (734) 764-8312 and <https://caps.umich.edu/> during and after hours, on weekends and holidays or through its counselors physically located in schools on both North and Central Campus. You may also consult University Health Service (UHS) at (732) 764-8320 and <https://www.uhs.umich.edu/mentalhealthsvcs>, or for alcohol or drug concerns, see www.uhs.umich.edu/aodresources. For a more comprehensive listing of the broad range of mental health services available on campus, please visit: <http://umich.edu/~mhealth/>.

For Students Experiencing Food Insecurity

College students are experiencing food insecurity at alarming rates. The Maize and Blue Cupboard is here to provide an immediate and comprehensive response for the U-M community by providing food, kitchen supplies, personal and household items, and additional support. Maize and Blue Cupboard is open to all UM students. You can go look around, or leave with a couple grocery bags - it's your choice. <https://mbc.studentlife.umich.edu/>

Other Recourses

- **Dean of Students Office** - 734-764-7420; provides support services to students and manages critical incidents impacting students and the campus community
- **Ginsberg Center for Community Service Learning** - 734-763-3548; opportunities to engage as learners and leaders to create a better community and world
- **Multi-ethnic Student Affairs (MESA)** - 734-763-9044; diversity and social justice through the lens of race and ethnicity
- **Office of Student Conflict Resolution** - 734-936-6308; offers multiple pathways for resolving conflict
- **Office of the Ombuds** - 734-763-3545; students can raise questions and concerns about the functioning of the university.
- **Sexual Assault Prevention and Awareness Center (SAPAC)** - confidential; 734-764-7771 or 24-hour crisis line 734-936-3333; addresses sexual assault, intimate partner violence, sexual harassment, and stalking
- **Spectrum Center** - 734-763-4186; support services for LGBTQ+ students

- **Trotter Multicultural Center** - 734-763-3670; intercultural engagement and inclusive leadership education initiatives
- **University Health Service (UHS)** - 734-764-8320; clinical services include nurse advice by phone, day or night
- **Well-being for U-M Students website** - searchable list of many more campus resources
- **Wolverine Wellness** - confidential; 734-763-1320; provides Wellness Coaching and much more

Academic Integrity

Abridged version: Unless otherwise specified in an assignment, all submitted work must be the work of each individual student's own, original work. If students are referencing others' work, put it in quotes. If students are directly quoting, or building on others' writing, provide a citation. See the Rackham Graduate policy on Academic and Professional Integrity for the definition of plagiarism, and associated consequences. Violations of academic and professional integrity will be reported to UMSI Student Affairs. Consequences impacting assignment or course grades are determined by the faculty instructor; additional sanctions may be imposed by the assistant dean for academic and student affairs.

Collaboration

UMSI strongly encourages collaboration while working on some assignments, such as homework problems and interpreting reading assignments as a general practice. Active learning is effective. Collaboration with other students in the course will be especially valuable in summarizing the reading materials and picking out the key concepts. You must, however, write your homework submission on your own, in your own words, before turning it in. If you worked with someone on the homework before writing it, you must list any and all collaborators on your written submission. Each course and each instructor may place restrictions on collaboration for any or all assignments. Read the instructions carefully and request clarification about collaboration when in doubt. Collaboration is almost always forbidden for take-home and in class exams.

For this course's team assignments, we expect that you are collaborating with your team members and that each of you is contributing to the assignment. For the individual assignments, we expect you to do this work independently, though you are allowed and encouraged to discuss your work with your team members.

Plagiarism

All written submissions must be your own, original work. Original work is not mere paraphrasing of someone else's completed answer. You may incorporate selected excerpts, statements, or phrases from publications by other authors, but they must be clearly marked as quotations and must be attributed. If you build on the ideas of prior authors, you must cite their work. You may obtain copy editing assistance, and you may discuss your ideas with others, but all substantive writing and ideas must be your own, or be explicitly attributed to another. See the student handbook available on the UMSI intranet for the definition of plagiarism, resources to help you avoid it, and the consequences for intentional or unintentional plagiarism.

Readings

There is no required textbook for this class. All readings will be available on the Canvas website for this class, unless they are available online, in which case a URL will be provided. (Note that readings may change; any changes will be announced via Canvas).

If you cannot access a reading for some reason, please let me know ASAP so I can correct the problem for the entire class.

Please note: everyone in the class is *expected* to come to class having read the required readings for that class. If you do not do the required readings, the class will not be fun for you and others because we won't be able to intellectually engage with the topics.

Week 1, Sep 1

Algorithms: why interrogate them?

- [Defining and Demystifying Automated Decision Systems](#) by Rashida Richardson, 2021
- [Don't ask if artificial intelligence is good or fair, ask how it shifts power](#) by Pratyusha Kalluri, 2020
- Chapter 2: "The multiplicity of algorithms." From [If...Then: Algorithmic Power and Politics](#). by Taina Bucher, 2018
- [The Relevance of Algorithms](#) by Tarleton Gillespie, 2014

Recommended

- [Race After Technology](#) by Ruha Benjamin, 2019
- [Algorithms as culture: Some tactics for the ethnography of algorithmic systems](#) by Nick Seaver, 2017
- [The Social Power of Algorithms](#), by David Beer, 2017
- [Algorithms and their others: Algorithmic culture in context](#) by Paul Dourish, 2016
- [Thinking Critically about and Researching Algorithms](#) by Rob Kitchin, 2014
- [Revisiting the Black Box Society by rethinking the political economy of big data](#): by [Benedetta Brevini](#) and Frank Pasquale, 2020
- [How the machine 'thinks': Understanding opacity in machine learning algorithms](#) by Jenna Burrell, 2016
- [Black boxes, not green: Mythologizing artificial intelligence and omitting the environment](#) by [Benedetta Brevini](#), 2020

Week 2, Sep 8

How do data subjects understand algorithms and so what?

Guest Speaker: Devansh Saxena

- [“I always assumed that I wasn’t really that close to \[her\]”: Reasoning about Invisible Algorithms in News Feeds](#)” by Motahhare Eslami, Aimee Rickman, Kristen Vaccaro, Amirhossein Aleyasen, Andy Vuong, Karrie Karahalios, Kevin Hamilton & Christian Sandvig, 2015
- [Algorithmic Folk Theories and Identity: How TikTok Users Engage in Algorithmic Resistance and Identity Co-Production](#) by Nadia Karizat, Dan Delmonaco, Motahare Eslami, Nazanin Andalibi, 2021
- [The algorithmic imaginary: exploring the ordinary affects of Facebook algorithms](#) by Taina Bucher, 2017
- [Managing visibility on YouTube through algorithmic gossip](#) by Sophie Bishop, 2019
- [Working with Machines: The Impact of Algorithmic and Data-Driven Management on Human Workers](#) by Min Kyung Lee, Daniel Kusbit, Evan Metsky and Laura Dabbish, 2015

Recommended

- [User Attitudes towards Algorithmic Opacity and Transparency in Online Reviewing Platforms](#) by Motahhare Eslami, Kristen Vaccaro, Min Kyung Lee, Amit Elazari Bar On, Eric Gilbert, and Karrie Karahalios, 2019
- [Is seeing believing? How recommender system interfaces affect users’ opinions](#) by Dan Cosley, Shyong K. Lam, Istvan Albert, Joseph A. Konstan and John Riedl, 2003
- [Understanding User Beliefs About Algorithmic Curation in the Facebook News Feed](#) by Emilee Rader and Rebecca Gray, 2015
- [Exploring How Beliefs About Algorithms Shape \(Offline\) Success in Online Dating: A Two-Wave Longitudinal Investigation](#) by Liesel L. Sharabi, 2020
- [When Users Control the Algorithms: Values Expressed in Practices on Twitter](#) by Jenna Burrell, Zoe Kahn, Anne Jonas, and Daniel Griffin, 2019
- [“At the End of the Day Facebook Does What It Wants”: How Users Experience Contesting Algorithmic Content Moderation](#) by Kristen Vaccaro, Christian Sandvig, and Karrie Karahalios, 2020

Week 3, Sep 15

Algorithms: Accountability, Justice, fairness, and Bias, Part 1

Q&A Guest: Alex Hanna

- [Computing and accountability](#) by Helen Nissenbaum, 1994

- [Principles for Accountable Algorithms and a Social Impact Statement for Algorithms](#) by Nicholas Diakopoulos, Sorelle Friedler, Marcelo Arenas, Solon Barocas, Michael Hay, Bill Howe, H. V. Jagadish, Kris Unsworth, Arnaud Sahuguet, Suresh Venkatasubramanian, Christo Wilson, Cong Yu, Bendert Zevenbergen, 2018
- [Dirty Data, Bad Predictions: How Civil Rights Violations Impact Police Data, Predictive Policing Systems, and Justice](#) by Rashida Richardson, Jason Schultz, Kate Crawford, 2019
- [Towards a critical race methodology in algorithmic fairness](#) by Alex Hanna, Emily Denton, Andrew Smart and Jamila Smith-Loud, 2020
- [Where fairness fails: Data, algorithms, and the limits of antidiscrimination discourse](#) by Anna Lauren Hoffmann, 2019
- [Fairness, Equality, and Power in Algorithmic Decision-Making](#) by Maximilian Kasy and Rediet Abebe, 2021

Recommended

- [Fairness and Abstraction in Sociotechnical Systems](#). by Andrew D. Selbst, Danah Boyd, Sorelle A. Friedler, Suresh Venkatasubramanian, and Janet Vertesi, 2019
- [How Instagram's algorithm is censoring women and vulnerable users but helping online abusers](#) by Carolina Are, 2020
- [Fair prediction with disparate impact: A study of bias in recidivism prediction instruments](#) by Alexandra Chouldechova, 2017
- [Machine Bias](#) by Julia Angwin, Jeff Larson, Surya Mattu and Lauren Kirchner, 2016
- [Oxford handbook on AI ethics book chapter on race and gender](#) by Timnit Gebru, 2019

Week 4, Sep 22

Algorithms: Accountability, Justice, fairness, and Bias, Part 2

Guest Speaker: Maria de los Milagros

- [What is the point of fairness?: disability, AI and the complexity of justice](#) by Cynthia L. Bennett and Os Keyes, 2020
- [Racial Segregation and the Data-Driven Society: How Our Failure to Reckon with Root Causes Perpetuates Separate and Unequal Realities](#) by Rashida Richardson, 2021
- [Re-imagining Algorithmic Fairness in India and Beyond](#) by Nithya Sambasivan, Erin Arnesen, Ben Hutchinson, Tulsee Doshi and Vinodkumar Prabhakaran, 2021
- [Measuring the Biases that Matter: The Ethical and Casual Foundations for Measures of Fairness in Algorithms](#) by Bruce Glymour and Jonathan Herington, 2019

Recommended

- [Fairness of AI for people with disabilities: problem analysis and interdisciplinary collaboration](#) by Jason J. G. White, 2020
- [Disability, Bias, and AI](#) by Meredith Whittaker, Meryl Alper, Cynthia L. Bennett, Sara Hendren, Liz Kaziunas, Mara Mills, Meredith Ringel Morris, Joy Rankin, Emily Rogers, Marcel Salas, Sarah Myers West, 2019
- Chapter 1: “A society, searching.” From [Algorithms of Oppression: How Search Engines Reinforce Racism](#) by Safiya Noble, 2018

Week 5, Sep 29

Investigating algorithms and their impacts

Guest Speaker: Prerna Juneja

- [Auditing Algorithms: Research Methods for Detecting Discrimination on Internet Platforms](#) by Christian Sandvig, Kevin Hamilton, Karrie Karahalios, and Cedric Langbort, 2014
- [Problematic Machine Behavior: A Systematic Literature Review of Algorithm Audits](#) by Jack Bandy, 2021
- [Actionable Auditing: Investigating the Impact of Publicly Naming Biased Performance Results of Commercial AI Products](#) by Inioluwa Deborah Raji and Joy Buolamwini, 2019
- [An Action-Oriented AI Policy Toolkit for Technology Audits by Community Advocates and Activists](#) by PP. M. Krafft , Meg Young , Michael Katell , Jennifer E. Lee , Shankar Narayan , Micah Epstein , Dharma Dailey , Bernease Herman , Aaron Tam , Vivian Guetler , Corinne Bintz , Daniella Raz , Pa Ousman Jobe, Franziska Putz , Brian Robick , Bissan Barghouti, 2021
- [Algorithmic Impact Assessments and Accountability: The Co-construction of Impacts](#) by Jacob Metcalf, Emanuel Moss, Elizabeth Anne Watkins, Ranjit Singh and Madeleine Clare Elish, 2021

Recommended

- [Auditing Autocomplete: Suggestion Networks and Recursive Algorithm Interrogation](#) by Ronald E Robertson, Shan Jiang, David Lazer, and Christo Wilson, 2019

Week 6, Oct 6

Research paper feedback

CRLT feedback: 5:30-6 pm

Week 7, Oct 13

Algorithms and values

Guest Speaker: Michael Muller

- [“Bias in Computer Systems”](#) by Batya Friedman and Helen Nissenbaum, 1996
- [Value-Sensitive Algorithm Design: Method, Case Study, and Lessons](#) by Haiyi Zhu, Bowen Yu, Aaron Halfaker, and Loren Terveen, 2018
- [Toward an ethics of algorithms: Convening, observation, probability, and timeliness](#) by Mike Ananny, 2016
- [Algorithmic Harms beyond Facebook and Google: Emergent Challenges of Computational Agency](#) by Zeynep Tufekci, 2015
- [Bias in Algorithmic Filtering and Personalization](#) by Engin Bozdog, 2013

Recommended

- [‘Why Do White People Have Thin Lips?’ Google and the Perpetuation of Stereotypes via Auto-Complete Search Forms](#) by Paul Baker and Amanda Potts, 2013
- [Is There an Ethics of Algorithms?](#) by Felicitas Kraemer, Kees van Overveld and Martin Peterson, 2010
- [Can an Algorithm Be Agonistic? Ten Scenes from Life in Calculated Publics](#) by Kate Crawford, 2015

Week 8, Oct 20

Algorithms and identity

Q&A Guest: John Cheney-Lippold

- [We Are Data: Algorithms and the Making of Our Digital Selves](#) Pages 1-36 (introduction), by John Cheney-Lippold, 2017
- [How We've Taught Algorithms to See Identity: Constructing Race and Gender in Image Databases for Facial Analysis](#): by Morgan Klaus Scheuerman, Kandrea Wade, Caitlin Lustig, Jed R. Brubaker, 2020
- [Gender shades](#): Intersectional accuracy disparities in commercial gender classification by Joy Buolamwini and Timnit Gebru, 2018
- [Racial categories in machine learning](#) by Sebastian Benthall and Bruce D. Haynes, 2019
- [Jus Algoritmi: How the National Security Agency Remade Citizenship](#) by John Cheney-Lippold, 2016

Recommended

- We Are Data: Algorithms and the Making of Our Digital Selves John Cheney-Lippold (the whole book)

Week 9, Oct 27

Emotion Recognition and Recognition Algorithms of the “Inner” Self

- [The Human in Emotion Recognition on Social Media: Attitudes, Outcomes, Risks](#) by Nazanin Andalibi and Justin Buss, 2020
- [Data Subjects’ Conceptualizations of and Attitudes toward Automatic Emotion Recognition-enabled Wellbeing Interventions on Social Media](#) by Kat Roemmich and Nazanin Andalibi, 2021
- Anonymized for public paper, by Karen Boyd and Nazanin Andalibi, 2021 (Link to add later)
- [The Ethics of emotion in AI](#) by Luke Stark and Jesse Hoey, 2021
- [Crystal Is Creepy, but Cool: Mapping Folk Theories and Responses to Automated Personality Recognition Algorithms](#) by Tony Liao and Olivia Tyson, 2021

Recommended

- Anonymized for public paper by Gabriel Grill and Nazanin Andalibi, 2021 (link to add later)
- [Person-Centered Predictions of Psychological Constructs with Social Media Contextualized by Multimodal Sensing](#) by Koustuv Saha, Ted Grover, Stephen M. Mattingly, Vedant Das Swain, Pranshu Gupta, Gonzalo J. Martinez, Pablo Robles-Granda, Gloria Mark, Aaron Striegel, Munmun De Choudhury, 2021
- **Recommended websites:**
Recognition technologies:
<https://www.ajl.org/drag-vs-ai>
<https://www.ajl.org/drag-vs-ai>
<https://www.ajl.org/drag-vs-ai>

Week 10, Nov 3

Algorithms in recommendations and ranking

- [Birds of a Feather Get Recommended Together: Algorithmic Homophily in YouTube’s Channel Recommendations in the United States and Germany](#) by Jonas Kaiser and Adrian Rauchfleisch, 2020
- [Captivating algorithms: Recommender systems as traps](#) by Nick Seaver, 2018

- [Your Search Algorithm is Political](#) [video] by Safiya Noble, 2018
- [After Repeatedly Promising Not to, Facebook Keeps Recommending Political Groups to Its Users](#) by Corin Faife and Alfred Ng, 2021
- [“Strongly Recommended”: Revisiting Decisional Privacy to Judge Hypernudging in Self-Tracking Technologies](#) by Marjolein Lanzing, 2019

Recommended (only partly by an algorithm)

- [Investigating the impact of gender on rank in resume search engines](#) by Le Chen, Ruijun Ma, Anikó Hannák & Christo Wilson, 2018

Week 11, Nov 10

Algorithms and health

- [What is Precision Medicine? Contemporary Issues and Concerns Primer](#) by Kadija Ferryman and Mikaela Pitcan, 2018
- [Digital Phenotyping: Ethical Issues, Opportunities, and Threats](#) by Giovanni Stanghellini and Federico Leoni, 2020
- [Detecting relapse in youth with psychotic disorders utilizing patient-generated and patient-contributed digital data from Facebook](#) by Michael Leo Birnbaum, Sindhu Kiranmai Ernala, Asra Rizvi, Elizabeth Arenare, Anna Van Meter, Munmun De Choudhury and John M. Kane, 2019
- [Ethics and artificial intelligence: Suicide prevention on Facebook](#) by Norberto Nuno Gomes de Andrade, Dave Pawson, Dan Muriello, Lizzy Donahue, and Jennifer Guadagno, 2018
- [Protecting life while preserving liberty: Ethical recommendations for suicide prevention with artificial intelligence](#) by Lindsey C. McKernan, Ellen W. Clayton, and Colin G. Walsh, 2018

Recommended

- [Dissecting Racial Bias in an Algorithm that Guides Health Decisions for Millions](#) by Ziad Obermeyer and Sendhil Mullainathan, 2019
- [The Stakes of Uncertainty: Developing and Integrating Machine Learning in Clinical Care](#) by Madeleine Clare Elish, 2019
- ["The human body is a black box": supporting clinical decision-making with deep learning](#) by Mark Sendak, Madeleine Clare Elish, Michael Gao, Joseph Futoma, William Ratliff, Marshall Nichols, Armando Bedoya, Suresh Balu and Cara O'Brien, 2020

- [Implementing Machine Learning in Health Care — Addressing Ethical Challenges](#) by Danton S. Char, Nigam H. Shah, and David Magnus, 2018

Week 12, Nov 17

Algorithms in education and work

Guest Speaker: Hannah Zeavin

- [The “black box” at work](#), by Ifeoma Ajunwa, 2020
- [Algorithms at Work: Productivity Monitoring Applications and Wearable Technology as the New Data-Centric Research Agenda for Employment and Labor Law](#) by Ifeoma Ajunwa, 2018
- [Of ‘black boxes’ and algorithmic decision-making in \(higher\) education – A commentary](#) by Paul Prinsloo, 2020
- [What if your boss was an algorithm? Economic incentives, legal challenges, and the rise of artificial intelligence at work](#) by Jeremias Adams-Prassl, 2019
- [Mitigating bias in algorithmic hiring: evaluating claims and practices](#) by Manish Raghavan, Solon Barocas, Jon Kleinberg, and Karen Levy, 2020

Recommended

- [Data-Driven Discrimination at Work](#) by Pauline T. Kim, 2016
- [Big Data in the workplace: Privacy Due Diligence as a human rights-based approach to employee privacy protection](#) by Isabel Ebert, Isabelle Wildhaber, and Jeremias Adams-Prassl, 2021
- [Explainer: Algorithmic Management in the Workplace](#) by Alexandra Mateescu and Aiha Nguyen, 2019
- [AI @ Work – Artificial intelligence in the workplace](#) by Gina Neff, Maggie McGrath and Nayana Prakash, 2020
- [Health and BigData: An Ethical Framework for Health Information Collection By Corporate Wellness Programs](#) by Ifeoma Ajunwa, Kate Crawford and Joel Ford, 2016
- [How We Investigated NYC High School Admissions](#) by Maddy Varner and Colin Lecher, 2021
- [NYC’s School Algorithms Cement Segregation. This Data Shows How](#) by Colin Lecher and Maddy Varner, 2021

Week 13, Nov 24, No class

Week 14, Dec 1

Resisting algorithms and redressing harms

- [Shaping Our Tools: Contestability as a Means to Promote Responsible Algorithmic Decision Making in the Professions](#) by Deirdre K. Mulligan, Daniel Kluttz and Nitin Kohli, 2019
- [“Gaming the System”: Platform Paternalism and the Politics of Algorithmic Visibility](#) by Caitlin Petre, Brooke Erin Duffy and Emily Hund, 2019
- [‘You can’t pick up a phone and talk to someone’: How algorithms function as biopower in the gig economy](#) by Michael Walker, Peter Fleming, and Marco Berti, 2021
- [Algorithmic anxiety: Masks and camouflage in artistic imaginaries of facial recognition algorithms](#) by Patricia de Vries and Willem Schinkel, 2019
- [Not for you, An automated confusion system for TikTok](#) by Ben Grosser, 2020

Recommended

- The Community Reporting of Algorithmic System Harms (CRASH) Project brings together key stakeholders for discovery, scoping, and iterative prototyping of tools to enable broader participation in the creation of more accountable, equitable, and less harmful AI systems <https://www.ajl.org/avbp>

Week 15, Dec 8

Seminar paper presentation/discussion and wrap up

Other resources of potential interest (please share what you find with me, so I can add them here):

Race + Data Science Lecture Series at Columbia University:
<https://datascience.columbia.edu/diversity/race-data-science-lecture-series/>