Computer Science
UNIVERSITY OF TORONTO

CSC 300: Computer and Society (Fall 2022)

LEC0101: Tuesday 1-3 pm (Lecture), Zoom link:
https://utoronto.zoom.us/j/88645440099

LEC5101: Wednesday 3-5 pm (Lecture), Zoom Link:
https://utoronto.zoom.us/j/86950460731

Tutorial 1: Thursdays 2-3 pm (for students of LEC0101)
Tutorial 2: Thursdays 3-4 pm (for students of LEC0201)
Zoom Link for Tutorials: (will be shared by your TAs)

Instructors

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O.H. Tuesdays 12-1pm

Overview

'Computer and Society' introduces a wide range of interconnections between computers and society. In this course, students will learn the basic values that drive today's computer industry and how those often strengthen or differ from many moral values held by different communities in our world. This course will introduce the students to various theories from philosophy and social sciences to develop a deep understanding of the ethical tensions around the relationship between computers and society. This class is designed to help the students gain this knowledge and strengthen their writing, debating, and designing capabilities to make them next-generation computer scientists who are ethical, responsible, and caring.

Learning Objectives

By the end of this course, students should be able to:

- Define and explain key concepts & terms in the course (ethics, privacy, equity, etc.).
- Develop a critical perspective on the recent evolution of computer and software technology and its impact on society.
- Develop a deeper understanding of the ethical tensions around emerging computing practices.
- Critically think and develop methods to produce ethical applications of computing technologies.

- Develop writing skills that are necessary to articulate an argument in a scholarly discussion.

Recommended Texts

- Code 2.0, by Lawrence Lessig [Download]
- The Age of Surveillance Capitalism, Shoshana Zuboff
- Algorithms of Oppression, Safiya Noble

[Please note that all the required reading materials will be provided through Quercus. These are optional reading suggestions]

Evaluation Schemes

Topic	Percentage	Description
Reading Responses	48%	After each module, you must submit an assignment based on that module. There are four modules in this course. So, you will be submitting four assignments. ● There will be 4 assignments in total ● Each response will be graded on a scale from 1 to 12 ● Detailed rubrics will be provided with the questions. ● The grade of each week's reading response is expected to be published over Quercus within 10 days of submission. There might be a delay for unavoidable circumstances. The questions are usually published after the first lecture of a module. Each module lasts 3 weeks. Due dates for each assignment will be 11:59 pm, Monday of the week the next module starts, except for the last reading response for Module 4 which will be due Thursday of that week (Dec 8th). You will read the articles posted on Quercus, attend the lectures, and respond to the questions mentioned in the assignment. The assignments must be submitted through Quercus as a PDF file, and be around 1000 words each.

Tutorial Participation	18%	You will be graded based on their performance in the Tutorials. The tutorials will include activities that are directly related to the class lecture (hence, attending the class lectures is important). While different tutorials will have different activities, the evaluation will be based on your understanding of the subject matter and participation in the tutorial. ● Note: No tutorials in the first week (i.e. Tutorials begin on the week of the 19th) ● There will be 11 tutorials in total ● Each tutorial will be graded on a scale from 1 to 2 ● The best 9 grades will be counted for the final grading ● Detailed rubrics will be provided during the tutorial by your TAs ● The grade of each tutorial is expected to be published over Quercus within 5 days of the tutorial. There might be a delay for unavoidable circumstances.
Final Assessment	34%	● Timed online test to be completed within a fixed time window ● Students may start the test any time within a 12-hour window. Once they start writing, they have 2 hours to complete it. ● The Test will take place on Quercus ● The details of the Final Assessment questions and grading rubrics will be provided on Quercus at least 1 month before the exam.

Detailed Deadlines:

The readings/videos below are tentative and may change over the course of the term. Refer to Quercus for the most up-to-date readings each week.

Date	Topic	Comment
	Module 1: Basic Concepts	
Sep 13	**Introduction**	No Tutorial
Sept 20	**Theories of Ethics** Before the Class: ● Watch: ○ What is 'Ethics'? ○ Utilitarianism	Tutorial 1: ● Review: Concepts of Normative Ethics (Deontology, Consequentialism, Virtue Ethics)

	○ Deontology ○ Virtue Ethics ○ Philosophy of Ethics and Morality - Introduction to Ethics (Moral Philosophy) - What is Ethics? ● Video companion: Cheatsheet.pdf Download Cheatsheet.pdf ● Read: Why ethics and law are not the same thing (Links to an external site.) (pdf Download pdf) After the Class: ● Read: Perspective Algorithmic injustice: a relational ethics approach (Links to an external site.) ● Optional reading: Lafollette, Hugh, (Ed.). 2020. (Links to an external site.)*Ethics in Practice: An Anthology.* 5th ed. Hoboken, NJ: Wiley Blackwell. Pp. 31-52, 62-71 (Links to an external site.)	● Main Discussion: Introduction to Relational Ethics and ethical universalism/subjectivism ● Activity: Discuss the binary ethical concepts of rational/relational and universal/subjective in groups.
Sept 27	**Politics of Technology** Before the Class: ● Watch: Why we need to understand the politics inherent in technology | Evan Barba | TEDxTysonsSalon (Links to an external site.) ● Read: The Politics of 'Platforms' by Tarleton Gillespie — A Summary (Links to an external site.) After the Class: ● Read: Brey, Philip. "Artifacts as social agents." Inside the politics of technology: Agency and normativity in the co-production of technology	Tutorial 2: ● Review: Concepts of politics of technology ● Main Discussion: How to answer Assignment #1 effectively ● Activity: Discuss the political and ethical aspects of the following scenario in groups: You have a startup that develops facial recognition and your clients are electronic wallet companies that want to verify the IDs of users in developing countries. One of your partners wants to close a deal with your country's border and immigration agency, which is interested in purchasing the data

	and society (2005): 61-84 (Links to an external site.)	that your startup will collect. What are the ethical and political implications of this?
	Assignment 1 due: Oct 3, 11:59 pm	
	Module 2: Data, Privacy, and Surveillance	
Oct 4	**Politics of Data** Before the Class: ● Algorithmic Bias and Fairness ● Sources of bias: How data goes bad ● Google Engineer on His Sentient AI Claim After the Class: ● Excavating AI (Links to an external site.) (pdf Download pdf) ● Bowker, G.C. and Star, S.L., 2000. *Sorting things out: Classification and its consequences*. MIT press. Chapters 3 & 4 (Links to an external site.) ● Optional: Miceli, M., Schuessler, M. and Yang, T., 2020. Between subjectivity and imposition: Power dynamics in data annotation for computer vision. *Proceedings of the ACM on Human-Computer Interaction*, *4*(CSCW2), pp.1-25.	Tutorial 3: ● Review: Data collection, classification, and infrastructures ● Activity: Discuss the following examples in groups (See: Tutorial #4 (Links to an external site.))
Oct 11	**Privacy** Before the Class: ● Facebook Listening to Users Isn't Just a Privacy Scandal (Links to an	Tutorial 4: ● Review: Definitions of privacy ● Activity: Watch the following video Safe and Sorry – Terrorism & Mass

	external site.) (pdf Download pdf) • Glenn Greenwald: Why privacy matters (Links to an external site.) • Podcast: Platform Capitalism (Links to an external site.) (optional) • Unpacking "Privacy" for a Networked World After the Class: • Nissenbaum, Helen. "Privacy as contextual integrity." Wash. L. Rev. 79 (2004): 119 Download Nissenbaum, Helen. "Privacy as contextual integrity." Wash. L. Rev. 79 (2004): 119 • The limits of transparency: Data brokers and commodification.pdf	Surveillance (Links to an external site.) • Discuss in groups to what extent we should sacrifice privacy for security
Oct 18	**Surveillance** Before the Class: • An Introduction to Michel Foucault's Discipline and Punish - A Macat Sociology Analysis (Links to an external site.) • Harvard professor says surveillance capitalism is undermining democracy (Links to an external site.) After the Class: • Browne, Simone. 2015. *Dark Matters: On the Surveillance of Blackness* (Links to an external site.). Duke University. Chapter 1 (Links to an external site.). • Zuboff, Shoshana. 2015. "Big other: surveillance capitalism and the	Tutorial 5: • Review: Benthian and Foucauldian Surveillance, and Surveillance Capitalism • Discussion: How to answer Assignment #2 effectively

	prospects of an information civilization." Journal of Information Technology 30(1): 75-89	
	Assignment 2 due: Oct 24, 11:59 pm	
	Module 3: Behind the Tech	
Oct 25	**Extraction, Emissions, and Computing** Before the class: ● Anatomy of an AI System (Links to an external site.) ● This man worked undercover in a Chinese iPhone factory (Links to an external site.) ● Special report : Inside the Congo cobalt mines that exploit children (Links to an external site.) After the Class: ● Taffel, Sy. "Escaping attention: Digital media hardware, materiality and ecological cost." Culture Machine 13 (2012) ● Hogan, Mél. "Big data ecologies." Ephemera 18.3 (2018): 631	Tutorial 6: ● Review: Extraction and Manufacturing ● Activity: Choose one of the devices that you own and try to find out where its parts come from. Where were they assembled? Where did the raw materials come from? Was it easy to find information about their origins?
Nov 1	**Repair, Recycle, and Electronic Waste** Before the class: ● Do You Have a Right To Repair Your Phone? The Fight Between Big Tech and Consumers (Links to an external site.) ● How Can We Fix The Massive E-Waste Problem? (Links to an external site.)	Tutorial 7: ● Review: Right to repair, E-Waste, Recycle ● Activity: Choose one of the devices you own and think of creative repurposing solutions. Reflect in groups: what have you done with your discarded electronics?

	After the Class: ● Jackson, Steven J. "Rethinking Repair." Media technologies: Essays on communication, materiality, and society (2014): 221-39 ● Jackson, Steven J., Alex Pompe, and Gabriel Krieshok. "Repair worlds: maintenance, repair, and ICT for development in rural Namibia." Proceedings of the ACM 2012 conference on Computer Supported Cooperative Work. ● Aich, Nirupam, et al. "The Hidden Risks of E-Waste: Perspectives from Environmental Engineering, Epidemiology, Environmental Health, and Human–Computer Interaction." Transforming Global Health. Springer, Cham, 2020. 161-178	
Nov 8	--READING WEEK; NO CLASSES--	
Nov 15	**Copyright and Intellectual Properties** Before the class: ● IP-rimer: A Basic Explanation of Intellectual Property (Links to an external site.) ● Optional: Intellectual Property - Crash Course (Links to an external site.) After the Class: ● Quinn, Michael J. "Chapter 4: Intellectual Property" in his Ethics for the Information Age 5th Ed. Pearson, 2017. Pp. 161-221 (Links to an external site.)	Tutorial 8: ● Review: Types of intellectual property ● Activity: How to answer assignment #3 effectively

	• Vaidhyana, Siva. "Open Source as Culture/Culture as Open Source." In Open Source Annual (2005). Pp. 341-348	
	Assignment 3 due: Nov 21, 11:59 pm	
	Module 4: Computing, Diversity, and Equity	
Nov 22	Gender, Sexuality, and Computing Before the class: • Why Are There So Few Women in Computer Science? (Links to an external site.) • A Brief History of Women in Computing (Links to an external site.) (pdf Download pdf) • The next frontier in gender rights is inside databases. (Links to an external site.) (pdf Download pdf) • torial #9 (Links to an external site.) After the Class: • Costanza-Chock, S., 2018. Design justice: Towards an intersectional feminist framework for design theory and practice. Proceedings of the Design Research Society • Bardzell, S., 2010, April. Feminist HCI: taking stock and outlining an agenda for design. In *Proceedings of the SIGCHI conference on human factors in computing systems* (pp. 1301-1310). • (Optional) D'ignazio, C. and Klein, L.F., 2020. (Links to an external site.)*Data*	Tutorial 9: • Review: Gender & sexuality, women in computing, feminist HCI • Activity: Discuss the principles of feminist HCI and how they will help address the following scenario written by scholar Sasha Constanza-Schock based on their experience traveling as a nonbinary, trans*, femme-presenting person: Tu

	feminism. MIT press. Introduction & Chapter 4	
Nov 29	**Race, intersectionality, and computing** Before the class: ● Race & Ethnicity: Crash Course Sociology #34 (Links to an external site.) ● Rise of the racist robots – how AI is learning all our worst impulses (Links to an external site.) After the Class: ● Gray, K.L., 2012. Intersecting oppressions and online communities: Examining the experiences of women of color in Xbox Live. Information, Communication & Society, 15 ● Benjamin, R. 2019. Race after technology: Abolitionist tools for the new jim code. Social Forces. Introduction and Chapter 1 (Links to an external site.) ● (Optional) Birhane, A., 2021. The Impossibility of Automating Ambiguity.	Tutorial 10: ● Review: Race, intersectionality, and HCI ● Activity: Read the following blog post from Facebook AI about their new dataset that addresses differences in skin color: Shedding light on fairness in AI with a new data set (Links to an external site.) ● Discuss: How is it different from previous approaches (think of ImageNet)? Why is self-identification important? What are the limits of using the scale to classify skin color? Is race being erased? Is this a positive or a negative choice?
Dec 6	**Computing and International Development** Before the class: ● TEDxTokyo - Kentaro Toyama - 05/15/10 - (English) (Links to an external site.) ● OLPC's $100 laptop was going to change the world — then it all went wrong (Links to an external site.)	Tutorial 11: ● Review: Development theories, colonization, postcolonialism ● Discussion: How to answer Assignment #4 effectively

	<u>After the Class:</u> ● Philip, K., Irani, L. and Dourish, P., 2012. Postcolonial computing: A tactical survey. Science, Technology, & Human Values, 37 (1), pp.3-29 ● Toyama, K., 2015. Geek heresy: Rescuing social change from the cult of technology. PublicAffairs. Introduction and Chapter 1 ● (Optional) Download Milan, S. and Treré, E., 2019. Big data from the South (s): Beyond data universalism. Television & New Media, 20 Television & New Media, 20 (4), pp.319-335	
	Assignment 4 due: Thurs Dec 8, 11:59 pm	

* The students are expected to receive 34% of their grade before Nov 1, 2022

Teaching Assistants:

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TA Office Hours: (Details will be posted on Quercus)

Office hours take place on Mondays at 11am and Thursdays at 4pm via Zoom. Please use the Zoom link posted on Quercus. Feel free to use this time to ask any questions you may have about the course.

Course Communication

Please note that the teaching team is trying their best to accommodate all the requests from all our students in this large class. We encourage our students to get most of their questions asked on our Piazza discussion board (link is on Quercus) and get answers from other students and us. Students can ask questions there and other students are encouraged to answer those questions if they can. The TAs and instructors will also join the discussion where and when needed.

For private questions:

- You can make a private post on Piazza that will be visible to only your TAs and instructors.
- If you have a private question that is specifically applicable to only your tutorial, please send an email to your TA. Start the title of your email [CSC300] to ask the questions.
- You can also use the office hours to have private questions answered by TAs. Students will be let into the Zoom room one at a time to have their questions asked and answered privately.

If the TAs cannot solve your problem, only then send an email to the course instructors using the course email: csc300-2022-09@cs.toronto.edu , or book a meeting meet during the instructor's office hours times. Please start the title of your email [CSC300] to ask the questions.

- To book a personal meeting with course coordinator Prof. Ahmed, please send an email to csc300-2022-09@cs.toronto.edu with the subject starting with [CSC300: OH] **at least 24 hours before his office hour**. If you get a confirmation email in response with the exact time and link, only then will the meeting happen.

- OH for Prof. Ahmed: Thursday 1-2pm (request a meeting via email at least 24h in advance)
- OH for Prof. Sadia: Tuesday 12-1pm (drop in on Zoom – link on Quercus)

Slides and Recording:

- Slides will be shared over Quercus before each lecture.
- Ishtiaque's class will be recorded, and the video will be uploaded to Quercus. Please contact the course email if any student has any reservations regarding recording.

Assignments:

- 8.5"×11" or A4 paper size.
- Times New Roman font.
- 11-point font size.
- Single-spaced lines of text
- 1-inch margins on all sides
- Paragraph indentation of 0.5 inches.
- References will NOT be counted toward the page or word limit. Reference format: ACM
- Titles, Subtitles, Images, etc. won't be counted toward the word limit.
- You can go over the word limit, but no more than 10% of the word limit. For example, if the word limit is 500, you can use a maximum of 550 words and no more than that. You will be penalized for using more text.

Academic Integrity:

We expect all students to abide by the Code of Behaviour on Academic Matters. To learn more about Academic Integrity, visit: https://www.academicintegrity.utoronto.ca/ To learn more about Academic Misconduct, visit: https://www.artsci.utoronto.ca/current/academic-advising-and-support/student-academic-integrity/academic-misconduct.

Ouriginal:

Normally, students will be required to submit their coursework to the *Ouriginal* software for a review of textual similarity and detection of possible plagiarism. In doing so, students will allow their work to be included as source documents in the software reference database, where they will be used solely for the purpose of detecting plagiarism. The terms that apply to the University's use of the *Ouriginal* service are described on the FAS website.

Penalty for Late Submissions

We highly encourage that you meet all the assignment deadlines in this course. Doing so will spread your work out (make it more manageable for you over time), and allow your TAs to get their feedback to you in a timely manner as well.

That being said, we recognize that unexpected problems, illness and disability-related barriers sometimes make it difficult to submit assignments on time. So we will try to be as flexible as possible for a course of this size with a team of TAs who also need to be able to balance their own workloads.

For all assignments, there is a 7-day grace period to submit without penalty. You do not have to ask for this 7-day extension – just submit your work when you are finished. This policy is intended to cover students who are registered with Accessibility services and require extra time to complete assignments as well as students who become ill at the original assignment deadline. Do not use it lightly to simply shift the original deadline.

Note that if you submit during your grace period, you will receive your grade later than those who submit on time (delaying your feedback), because your TA will mark it when their schedule allows.

If you need an extension beyond 7 days, contact your tutorial TA as soon as possible and ask for a specific amount of additional time. You do not have to give any details that you don't want to share or provide documentation. If you are experiencing something that will cause ongoing challenges or if you are facing difficulties that we could help you with, feel free to let either your instructor or your TA know what's going on.

Re-grading:

Errors in marking must be brought to the instructors' attention using the course email address within 1 week (7 days including weekends, holidays, etc.) of the coursework being returned. All the regarding requests should be made to TA, Ananya Bhattacharjee (ananya@cs.toronto.edu)

Accessibility:

This course is guided by the University of Toronto's goal to create a community that is inclusive of all persons and treats all members of the community in an equitable manner. In creating such a community, the University aims to foster a climate of understanding and mutual respect for the dignity and worth of all persons. Please find details here: https://www.utoronto.ca/accessibility

If you need to talk about any accessibility issue, please contact TA Yasaman Rohanifar (yasaman.rohanifar@mail.utoronto.ca)

Additional resources for accessibility services:

- https://clockwork.studentlife.utoronto.ca/custom/misc/home.aspx
- https://studentlife.utoronto.ca/department/accessibility-services/

Additional Resources

1. For improving your writing
    - Writing at the University of Toronto
    - Dartmouth Institute of Writing and Rhetoric
2. To know more about Ethics:
    - UofT Center for Ethics
3. Recognized Study Groups (RSG) are voluntary, peer-led study groups of 3 – 6 students enrolled in the same course. They're available for all A&S courses and are now fully online. In addition to supporting students' study habits and academic success, RSGs also encourage student participants to be socially connected with their peers. Last year, over 2,000 A&S students participated in RSGs for courses spanning all streams and class sizes.
4. Meet to Complete are online drop-in study sessions held exclusively for A&S undergrads. Offered multiple times per business day and led by trained A&S student-staff, these study sessions help students to stay motivated and productive by offering daily goal-setting and the opportunity to study alongside their A&S peers.
5. UofT Library: https://onesearch.library.utoronto.ca/
6. Mental Healthcare: http://mentalhealth.utoronto.ca/