LMC 6310 – Computer as Expressive Medium – Fall 2024

Instructor: Noura Howell

- [Google Scholar](#)
- [Future Feelings Lab](#)
- [Portfolio](#)
- Office hours: By appointment only
- Pronouns: she / her / hers

TA: Chengzhi Zhang

- [Google Scholar](#)
- Office hours: By appointment only

Outline

How can computers be used as an expressive medium? This course invites students to engage computing and digital media technology for creative, artistic, expressive purposes. The focus is on using technology in service of compelling creative expressions. This requires working to develop basic computational literacy, creative idea generation, and a critical perspective on digital practices.

Skills developed in this class

Computational Literacy
Don't let anyone, including yourself, intimidate you about coding. It just takes practice and support, like anything else. We will provide the support, and expect you to put in the practice. In this class, we'll focus on p5js.

Creative Idea Generation
Having creative ideas isn't always magical inspiration, it's often more like a muscle or a skill that you practice, train, maintain, grow. In this class, you will be on a strict training regimen to generate creative ideas every week.

Critical Perspective
... But what does it all mean?? We will critically discuss the potential meanings and politics of many different example works that engage the computer as an expressive medium. Toward the latter half of the class, we will hone in on one approach for the final projects - called fabulation.

Weekly rhythm of the class sessions

Mondays: Discussion

To learn about the expressive potential of computing, we will explore many examples of projects that use the computer as an expressive medium. This will be a seminar style discussion of selected examples. Every student will pick a day to be a lead discussant.

Wednesdays: Demo Day

Every student will demo their lab assignment every week. Get inspired by your peers and learn from their examples. Support each other. Lab assignments will be graded on the basis of both technical skills (e.g., technical capabilities employed, elegant code) and creativity (e.g., concept, aesthetics, surprising use of medium).

Fridays: Creative Coding Lab

These labs will require students to develop basic programming skills in p5js, and apply these coding skills toward making creative "sketches". The TA will lead the lab sessions.

Logistics

Materials Needed

Students must have access to a computer capable of running p5js in a web browser. If this poses a financial burden, please fill out the form here to request to borrow a laptop from OIT and email support@lmc.gatech.edu to ask if there are any computers that can be borrowed. Please let the instructor know and we will work with you to make sure you are able to participate in the class.

No purchases. All readings online.

Main Assignments

Creative Coding Sketches (Labs)

Weekly labs will develop creative coding skills in p5js. These will be created online in p5js and saved to the student's individual free online p5js account. Turning in the labs requires demoing the lab in class on the due date as well as submitting documentation on Canvas on the due date before the start of class.

Lead Discussant

Each student will sign up for a day to be a lead discussant. A few students will sign up for the same day and work together to lead the discussion on that class day. Your group will work together to suggest additional reading(s), present on readings to the class, prepare questions relevant to the readings and artifacts, etc.

Project on Fabulating Alternative Futures

The final project for the course will explore fabulation as a method for imagining alternative ways of living with technology, computation, and digital media. It is a group project, and students can choose their own groups. The final project has a few assignments: Project Team Formation, Project Proposal Presentation, Project Exhibition Demo, Project Exhibition Presentation, Project Report.

Policies and Resources

Participation and Attendance

Class attendance and participation is mandatory*.

Participation throughout the semester is part of the final grade for this class. Students are expected to participate in discussions and in giving and receiving feedback on their work with their peers. Students should try to foster a supportive, inclusive, welcoming space for all their peers to participate in - this might mean talking a little more or talking a little less than your default.

Participation in class discussion is imperative because it allows you to explore the concepts collaboratively, and in the process, discover meanings and issues that you probably would not discover on your own. Participation in class also challenges you to continuously question, refine, and articulate your own ideas and interpretations.

There will be ways to participate on a smaller scale through smaller groups too. Part of participation is also helping make the class a supportive community for your peers to share their tentative thoughts.

*Stay home and rest if you are sick! This is important for your health and the health of everyone else in the classroom. Please send an email to the instructor and GTA to let us know.

Information for Students with Disabilities

Students with disabilities at Georgia Institute of Technology will find programs designated to coordinate academic accommodations and promote access to all phases of university life. Such programming is coordinated through the ADAPTS-Disability Services.

The ADAPTS-Disability Services Program is a functional part of the Office of the Dean of Students. ADAPTS-Disability Services Program personnel oversee and coordinate programs to ensure accessibility to students with disabilities on an individual basis. The Georgia Institute of Technology strives to provide equal access to a college education as well as support to students with disabilities in their experience in the university community.

More information is available at: http://disabilityservices.gatech.edu/

Statement on Inclusion and Diversity

The Ivan Allen College of Liberal Arts supports the Georgia Institute of Technology's commitment to creating a campus free of discrimination on the basis of race, color, religion, sex, national origin, age, disability, sexual orientation, gender identity, or veteran status. We further affirm the importance of cultivating an intellectual climate that allows us to better understand the similarities and differences of those who constitute the Georgia Tech community, as well as the necessity of working against inequalities that may also manifest here as they do in broader society.

We may discuss topics that challenge you to re-evaluate your assumptions or beliefs, which some people may find uncomfortable. Our classroom environment may not always be comfortable, but we all have a shared responsibility to ensure that our classroom environment is always **respectful**.

Mental health resources

Your health is more important than this class. If you are experiencing anxiety or depression or a medical, personal, or family crisis, or if you just feel overwhelmed, please do not hesitate to reach out for help. Everybody needs help sometimes, and being in school can be a personally challenging time. You are not alone, and many of us are available to be sympathetic listeners and to share our own strategies for coping with stressful situations. In addition, professional counselors and medical practitioners have expertise that can be very helpful. Here is a list of resources: https://studentlife.gatech.edu/content/get-help-now.

Writing and speaking support at the Communication Center

Alumni consistently emphasize the value of presentation skills for success in digital media careers. Everyone is encouraged to maximize their writing and speaking skills so that you can best convey your great thoughts and ideas. The Communication Center (https://www.commlab.gatech.edu/home) offers student support for communication skills. You have great thoughts and ideas, and communication skills can help you effectively share them with others.

Library Resources

The GT Library has numerous resources, gadget rental, study space, activities, and more.

Sharing of work

Participation in the course implies permission for sharing work done in this class with others:

1. In this class, for presentations, feedback, and critique – with your name associated with the work
2. With future students, if your work is a good example that can help other students learn – without your name associated with the work
3. In a public teaching portfolio for the instructor and/or GTA, to showcase the wonderful outcomes of the course – without your name associated with the work

If you are not comfortable with this for any reason, please let me know. I will respect your wishes regarding #2 and #3. I am not able to accommodate assignment privacy for #1 for pedagogical reasons, so please make sure that any work you turn in, you are comfortable sharing with the entire class. Unless I am informed by you in writing (email) that you do not want your work shared with others, I will assume that it is permissible to share your work in ways #1, #2, and #3 above. Also, let me know if you DO want your name shared in cases #2 and #3. I err on the side of protecting student privacy, but I am more than happy to give credit where credit is due.

Honor Code Statement

Students are expected to adhere to the Georgia Tech Honor Code.
Have you heard the saying, "Good artists borrow, great artists steal?"
Don't steal anyone's work.

Do get inspiration from other people's work, and adapt it in your own way to make it your own by adding some of yourself to it.

Do cite your sources. You can cite your classmate's sketch from last week. You can cite some example code you found online. You can cite our wonderful TA who helped you figure something out. You can say you got help from a classmate. But be clear about what parts you took from someone else, and what parts you changed or added. Scholars are always building on others' work and citing others' work.

In this class, you are required to give credit to others by citing their work.

Generative AI Tools Policy

I want to acknowledge that we are still in a period where there are not clear norms about how to use generative AI tools. This policy may get updated over the semester as we all learn about different uses of these tools, or encounter them in new situations. Assignments are a form of communication. The assignments in this class are meant to be opportunities to demonstrate and evaluate your learning. They enable receiving useful feedback from peers and the instructor, to help you learn and improve on your skills and work. **Using automated tools to do most of the assignment for you can break that feedback loop, transforming the assignments from useful to busy work – Ultimately this is just harming *your* learning, wasting *your* educational opportunity in this program.**

Generative AI tools are based on matching patterns on past materials. They are not actively thinking/reasoning like a human does. (A metaphor: if you asked me to design a bridge without any engineering training, and I drew up some blueprints based on a bunch of designs of bridges through Google, it might look pretty cool and it might even stand up! But we probably wouldn't build that exact bridge because I didn't follow any of the reasoning and requirements that's been developed in structural and civil engineering).

Assignments in this class may not always feel straightforward, because learning to think through these kinds of assignments is part of getting a top-notch education! There can be temptation to turn to an automated AI tool as soon as you hit a challenge. It's OK to sit for a while and be unsure, or work on something else for a while and come back, or talk to a person. I'd rather you talk to your peers first for ideas and brainstorming before turning to ChatGPT. (In the same way that you'll get richer research data by talking to real people than talking to a ChatGPT persona; you'll get richer research ideas by talking to real people instead of talking to ChatGPT!).

That being said, I know that tools like ChatGPT and generative AI can be useful for certain types of tasks, or as resources to help in writing. Therefore, for any assignment for which you use ChatGPT or any other generative AI, you must both (1) cite the tools you use, as you would cite a research paper or other resource that you used in your work, and (2) add a section titled "Generative AI Usage" documenting how you used the tool(s). Include transcripts of LLM text or dialogues, and any iterations of generative image, sound, or other media from/with AI, etc, to thoroughly document your process of using generative AI in producing the output of your project.

In general, you will not be penalized for using ChatGPT and other generative AI tools **if you disclose how you used it**. Of course, low quality assignments will still receive lower

grades. However, writing a false statement about your use of ChatGPT or other generative AI tools, or turning in a document that was completely written by ChatGPT or an AI tool, are likely violations of the academic honor code (plagiarism, false claims of performance, deliberate falsification), and will result in a 0 grade and a possible referral to the Office of Student Integrity.

Use of ChatGPT and AI tools is a large gray zone – the following are not 100% rules, but some suggestions and guidelines to help you use these tools in a way that will be helpful to you achieving the course goals and objectives.
Likely useful ways of using generative AI:
- Helping to re-word or re-structure a sentence or paragraph to help you more clearly convey an idea
- Translating languages (you may need to double check manually for errors)
- Finding a specific resource/paper you already know about but can't remember the name of
- Providing a template for a paragraph
- Asking it to critique your writing
- Cut down words you've written to meet a word count or page limit.

Likely counterproductive ways of using generative AI:
- Writing the assignment for you and turning it in – this is likely a violation of the academic honor code and will be dealt with as such
- Citing factual statements from ChatGPT – ChatGPT can "hallucinate," or create very convincing sounding facts and citations, and passing them off as real
- Finding new sources and papers – the hallucination problem again
- Using ChatGPT as a general search engine – the hallucination problem again
- Brainstorming – Generative AI tools are trained based on examples from the real world; they are just rehashing examples of what they have previously seen in the real world; thus they are inherently normative. Brainstorming with a generative AI tool is a great way to come up with a lot of tired old ideas that have already been shared a million times. Your goal in brainstorming is to come up with many ideas in the hopes of finding some interesting and relatively unique ideas, based in the collective or individual perspectives of you and your teammates and all the contextual knowledge you have built up about what makes sense for the project you all are doing.

Remember, your perspective and voice matter, and your mind, body, and emotions offer exquisitely complex and sophisticated capabilities that you can use to do things no generative AI can do. In this class, I would much rather you put forth a unique, interesting, and flawed piece of work, rather than aiming for something generically normatively 'good' with generative AI tools.

Please also refer to Georgia Tech Office of Information Technology's AI guidelines and policies: https://oit.gatech.edu/ai

Grading Breakdown

Assignment	Points
Lead Discussant	20
Each lab is 5 points x 9 labs	45
Project team formation and topic selection	2
Project proposal presentation	5
Project exhibition demo	5
Project exhibition video	5
Project exhibition presentation	5
Individual project report	5
Participation	10
Total:	102

Any assignment turned in late will receive at most half points. This is because most assignments are used for in-class activities, so the pedagogical value of the assignment is greatly lessened if it is not shared in class on the intended day.

The lowest grade will be dropped and not counted toward the final grade. In this case, all other assignments will count proportionally more. Participation cannot be "dropped".

If you have to miss class for a valid reason such as illness, family emergency, etc., please proactively coordinate with the instructor in advance to find an alternative make up assignment, which could take a different form than the original assignment.

Grade Ranges

A: 90 – 100%

B: 80 – 89%

C: 70 – 79%

D: 60 – 69%

F: 0 – 59%

Schedule

Date	Topic	Review before class	Due at start of class
Mon Aug 19	Course overview, p5.js showcase		
Wed Aug 21	Discuss	p5js 2021 Showcase How to Survive a Critique - Giving and Receiving Feedback Allegra: TEXERE: see tapestries here, more description, more description	Must sign up for Discussant day by end of class
Fri Aug 23	Lab 1	Lab 1: Getting started with p5.js web editor and Mondrian Art (link)	
Mon Aug 26	Discuss	Benjamin - The Work of Art in the Age of Mechanical Reproduction	
Wed Aug 28	Demo & Critique		Lab from last Fri
Fri Aug 30	Lab 2	Lab 2: Interactive pen sketch (link)	
Mon Sep 2	Labor Day – no class		
Wed Sep 4	Demo & Critique		Lab from last Fri

Date	Topic	Content	Notes
Fri Sep 6	Lab 3	Lab 3: Poetry sketch (link)	
Mon Sep 9	Student-led Discussion 1	DJ Spooky Quantopia Ting - Within these Walls - Dreams of Flight Schechner - Performance Studies - Ch2	
Wed Sep 11	Demo & Critique		Lab from last Fri
Fri Sep 13	Lab 4	Lab 4: Moving images sketch (link)	
Mon Sep 16	Student-led Discussion 2	Niemeyer - Metered Tide - Coastal Futures Nicula - dioramas.space - check out a few of them Puig de la Bellacasa - Matters of Care - Introduction	
Wed Sep 18	Demo & Critique		Lab from last Fri
Fri Sep 20	Lab 5	Lab 5: Keyboard input sketch (link)	
Mon Sep 23	Student-led Discussion 3	Kazmi - Cranes and Cube Cranes and Cube in the Deep Dive Catalogue Allahyari - She Who Sees the Unknown Allahyari - UCLA Regents Lecture	
Wed Sep 25	Demo & Critique		Lab from last Fri
Fri Sep 27	Lab 6	Lab 6: Video camera input sketch (link)	
Mon Sep 30	Student-led Discussion 4	Lerchin: Aggregate Vision: http://aggregate.vision/, https://benlerchin.com/ Boym - Off-Modern Manifesto	
Wed Oct 2	Demo & Critique		Lab from last Fri
Fri Oct 4	Lab 7	Lab 7: Data display sketch (link)	
Mon Oct 7	Student-led Discussion 5	Berdugo - Internet Aerobics Santos - Domain Errors Sommer - In/Visible Body - Notes on Biotechnologies' Vision	
Wed Oct 9	Demo & Critique		Lab from last Fri
Fri Oct 11	Lab 8	Lab 8: Reactive sound sketch (link)	
Mon Oct 14	Fall break – no class		
Wed Oct 16	Demo & Critique	Led by TA	Lab from last Fri
Fri Oct 18	Lab 9	Lab 9: Generative AI as a tool for creation (link)	
Mon Oct 21	Student-led Discussion 6	Generative AI & Art Heisters, Chen, Christian: Gestures: https://vimeo.com/showcase/6988423, https://heistersgenerative.com/# Each lead discussant picks one additional piece	
Wed Oct 23	Demo & Critique		Lab from last Fri
Fri Oct 25		Catch up on labs with help from TA, open for debugging and any questions about p5.js	
Mon Oct 28	Intro design futuring and final projects	Dunne & Raby - Speculative Everything - Chapter 1 Wong et al. - Infrastructural Speculations: Tactics for Designing and Interrogating Lifeworlds Kozubaev et al. - Expanding Modes of Reflection in Design Futuring Howell et al - Calling for a Plurality of Perspectives on Design Futuring	
Wed Oct 30	Intro fabulation	Søndergaard et al – Fabulation as an Approach for Design Futuring Helms et al. - Scaling Bodily Fluids for Utopian Fabulations Tsaknaki et al. - Fabulating Biodata Design Futures for Living and Knowing Together	

Fri Nov 1	Lab: Team brainstorm activity	Get into final project teams of 2-3 students per team, then do the team brainstorm activity.	Final project team formation and topic selection due by the beginning of lab
Mon Nov 4	Student-led Discussion 7	Saraf - Alaap Manovich - The Language of New Media - Introduction (p 3 -17) Each lead discussant picks one additional piece	
Wed Nov 6	**Project proposal presentations**		Project proposal presentations
Fri Nov 8	Work on final projects, get help from TA	Work on final projects with team	
Mon Nov 11		Work on final projects with team	
Wed Nov 13		Work on final projects with team	
Fri Nov 15	Work on final projects, get help from TA	Work on final projects with team	
Mon Nov 18	Instructor : team feedback checkins	Teams meet instructor 1:1 in the classroom, while everyone else comes to the classroom and uses the time to work on their projects	
Wed Nov 20	Instructor : team feedback checkins	Teams meet instructor 1:1 in the classroom, while everyone else comes to the classroom and uses the time to work on their projects	
Fri Nov 22	Work on final projects, get help from TA	Work on final projects with team	
Mon Nov 25	Work with team on final projects	Work on final projects with team	
Wed Nov 30	Thanksgiving break – no class		
Fri Nov 29	Thanksgiving break – no class		
Mon Dec 2	**Final Exhibition**		Project Exhibition Demo Project Exhibition Presentation
Thu Dec 12	Classes are over – no class		Project Exhibition Video due 11:59pm Individual Project Report due 11:59pm
Mon Dec 16	Classes are over – no class	Instructor is required to submit grades by 12pm	