

Spring 2025

DESMA 160 - Special Topics in Interactivity/Games

CULTURAL AUTOMATION WITH MACHINE LEARNING II



Image from "Generative Agents: Interactive Simulacra of Human Behavior" by Joon Sung Park, Meredith Ringel Morris, Joseph C. O'Brien, Percy Liang, Carrie J. Cai, Michael S. Bernstein.

COURSE OVERVIEW

INSTRUCTORS

Instructor: Parag K. Mital

Parag K. MITAL, Ph.D. (US) is an Indian American artist and interdisciplinary researcher working between computational arts and machine learning for nearly 20 years. His varied scientific background includes fields such as machine and deep learning, film cognition, eye-tracking studies, EEG and fMRI research. His artistic practice combines generative film experiences, augmented reality hallucinations, and expressive control of large audiovisual corpora, tackling questions of identity, memory, and the nature of perception.

Website: <https://pkmital.com/home/>

Email: pkmital@gmail.com

Office hours: by appointment or after class Tues/Thurs

TA: Chelly Jin

Email: chellyjin@g.ucla.edu

COURSE DESCRIPTION

This course explores the past, present, and future of how artists engage with digital media through its remix and adaptation of increasingly more automated algorithms.

Starting from early collage and montage practices, we'll explore how artists have used cultural fragments as their medium to explore meaning through juxtaposition, appropriation, and détournement. We will then turn towards how computational methods enabled artists to explore such practices in increasingly surprisingly fidelity and magnitudes of data, leading to new aesthetics but also new questions surrounding its process and the underlying data. Finally we'll speculate on the future of culture and machine learning in order to ask "Where is it all going?".

Throughout, we will also extend the discussion into topics such as perception, augmentation, deep fakes, surveillance, privacy, automation, shifting labor markets, and ethical and legal considerations in order to provide a framework for how to engage with the machine learning tools we will be learning to use.

The course will aim to balance theory, background, computational practice, and peer discussion and will shift focus between visual media, text media, audio media, and simulated / procedural environments.

COURSE WEBSITE URL

<https://pkmital.com/home/teaching/>

PREREQUISITES

As we will work with various machine learning tools directly, some experience or interest in working with generative tools is suggested but not required. Experience with terminal, code editors, 3d software, image or video creation, or 3d design is helpful but also not required.

COURSE MATERIALS

Required Hardware

- Laptop or remote access desktop with image/video editing, rendering, and 3d modeling capacity. Suggested minimum specifications are as follows:
 - Windows 8.1, 10, or 11/ macOS 10.15 Intel / 11.0 Apple Silicon
 - 64-bit quad core CPU
 - 8 GB+ RAM
 - Graphics card with 2 GB+ RAM
 - SSD with storage space available
 - Less than 10 years old

*If you do not have access to a computer with these specifications, please contact the instructor to discuss accommodation. Computer purchase is not necessary for the course.

Required Software

- Machine Learning software/ tools will be purchased and installed during the course, with instruction
- Adobe Creative Suite
- Visual Studio Code
-

CLASS ORGANIZATION

The class is taught Tuesday & Thursdays from 9:00 - 11:50 AM, in person, at the Broad Art Center on the UCLA campus in room Broad 4220.

HOW TO SUCCEED IN THIS COURSE / COURSE EXPECTATIONS

Students are expected to attend every single class, in person, with active participation. Students should be prepared to keep up with readings and lab/homework assignments, as each one builds on the previous one. An honest, fair, responsible, and respectful effort on all academic work and collaboration is required.

Students can expect the instructor to be enthusiastic and prepared for teaching each lecture or lab. Students can expect a timely response (from either instructor or TA) to email communications or discord communications in regards to material understanding of the course. Integrity standards and an atmosphere that fosters active learning, creativity, critical thinking, and honest collaboration will be upheld in the classroom.

STUDENT LEARNING OUTCOMES

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

- Understand the important critical questions that arise when working with datasets and machine learning, especially in relation to content generation, culture, and computational arts practices.
 - Understand the breadth and range of SOTA approaches to content generation with machine learning.
 - Understand how to utilize many advanced SOTA approaches in ML across a variety of domains and modalities from image, video, sound, music, 3d, and agent-based applications.
-

ASSIGNMENTS

Thorough descriptions of each assignment will be provided during class each week.

Updated course calendar can be found on the class website: <https://pkmital.com/home/teaching>

***NOTE:**

This syllabus, including course assignments and due dates, are subject to change. It is the student's responsibility to check the course web site for corrections or updates to the syllabus. Any changes will be clearly noted and discussed during class meetings.

GRADING

Percentage	Item
56%	8 assignments @ 7% each
24%	8 feedback sessions @ 3% each
30%	1 final project
Total = 110%	

> 90 = A
90 - 80 = B
80 - 70 = C
70 - 60 = D
< 60 = 😞

COURSE POLICIES

CONTACTING ME

I am available by email and will make my best effort to respond as quickly as possible. However, please be advised that I cannot guarantee a standard response time due to other work commitments, travel, and other engagements. For urgent matters, please also contact the course TA. Office hours are by appointment only and can be scheduled with me directly during class time or via email.

TECHNOLOGY POLICY

Given that this course centers around topics of Machine Learning and AI, the use of technology is not only permitted but required. The following guidelines aim to ensure that technology aids the learning experience:

- **Devices allowed:** Laptops, Tablets, Smartphones (for course-related use only)
- **Use policy:** Technology should be used during class for taking notes, participation in in-class activities, running software or participating in tutorials, research relevant to class topic / discussion.
- **Use of AI:** Required.
- **Note:** While technology is central to this course, students are also encouraged to engage in discussions, ask questions, and ensure that their use of technology is respectful in that it does not inhibit the learning experience for themselves or others.

LATE WORK AND CLASS PARTICIPATION

As each week's work builds upon the last, students should complete each assignment on time and be prepared to present or discuss their work during lab sessions. Should extenuating circumstances arise, please alert the instructor or TA. No late assignments will be accepted unless by written authorization of the instructor. All assignments will be made as presentations to the class on Tuesdays, and require well thought out presentations to aid in a succinct and clear presentation.

Participation in discussion and feedback sessions will be tracked and accounts for a cumulative 24% of the course grade. Participation is required each week, with a total of 8 presentations and a grade of 3% contributing to the overall grade each week.

RESOURCES

ACADEMIC INTEGRITY POLICY

UCLA is a community of scholars. In this community, all members including faculty, staff and students alike are responsible for maintaining standards of academic honesty. As a student and member of the University community, you are here to get an education and are, therefore, expected to demonstrate integrity in your academic endeavors. You are evaluated on your own merits. Cheating, plagiarism, collaborative work, multiple submissions without the permission of the professor, or other kinds of academic dishonesty are considered unacceptable behavior and will result in formal disciplinary proceedings usually resulting in suspension or dismissal.

Additional information can be found on the website for the Office of the Dean of Students:

<https://deanofstudents.ucla.edu/student-conduct-code>

Remember: There are many alternatives to academic dishonesty!

- Seek out help – meet with your TA or Professor, ask if there is special tutoring available.
- Drop the course – can you take it next quarter when you might feel more prepared and less pressured?
- Ask for an extension – if you explain your situation to your TA or Professor, they might grant you an extended deadline.
- See a counselor at Student Psychological Services, and/or your school, college or department – UCLA has many resources for students who are feeling the stresses of academic and personal pressures.

ACCESSIBILITY

Students needing academic accommodations based on a disability should contact the Center for Accessible Education (CAE) at (310) 825-1501 or in person at Murphy Hall A255. When possible, students should contact the CAE within the first two weeks of the term as reasonable notice is needed to coordinate accommodations. For more information visit www.cae.ucla.edu.

ASSAULT, HARASSMENT, AND DISCRIMINATION

Title IX prohibits gender discrimination, including sexual harassment, domestic and dating violence, sexual assault, and stalking. If you have experienced sexual harassment or sexual violence, you can receive confidential support and advocacy at the CARE Advocacy Office for Sexual and Gender-Based Violence, 1st Floor Wooden Center West, CAREadvocate@caps.ucla.edu, (310) 206-2465. In addition, Counseling and Psychological Services (CAPS) provides confidential counseling to all students and can be reached 24/7 at (310) 825-0768. You can also report sexual violence or sexual harassment directly to the University's Title IX Coordinator, 2241 Murphy Hall, titleix@conet.ucla.edu, (310) 206-3417. Reports to law enforcement can be made to UCPD at (310) 825-1491. Please note, I am legally required to share information of this nature with the Title IX office.

NAVIGATING STUDENT SERVICES

UCLA's new Student Affairs Guidebook gathers key resources for graduate and undergraduate students related to living and learning during these tumultuous times:

<https://www.studentaffairs.ucla.edu/guidebook>. Students can always consult the Student Care Managers program website for information about supportive services, including information about confidential one-on-one consultation:

<http://www.studentincrisis.ucla.edu/Who-can-Help>.

BASIC NEEDS/FOOD RESOURCES

If you find yourself having difficulty accessing meals and/or groceries, go to this link for information on a variety of on- and off- campus resources available to students: <https://basicneeds.ucla.edu/>.

LGBTQIA RESOURCES

The UCLA LGBT Campus Resource Center (www.lgbt.ucla.edu) provides a range of services supporting intersectional identity development as well as fostering unity, wellness, and an open, safe, and inclusive environment. UCLA also has a range of policies and services especially relevant to transgender students here: www.lgbt.ucla.edu/Trans-At-UCLA.

MENTAL HEALTH

As a student you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, depression, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance or reduce a student's ability to participate in daily activities. UC offers services to assist you with addressing these and other concerns you may be experiencing. If you or someone you know are suffering from any of the aforementioned conditions, consider utilizing the confidential mental health services available on campus. I encourage you to reach out to the Counseling Center for support (www.counseling.ucla.edu and 310-825-0768, available 24/7). An on campus counselor or after-hours clinician is available 24/7.

UCLA acknowledges our presence on the traditional, ancestral and unceded territory of the Gabrielino/Tongva peoples.