UM EECS 542: Advanced Topics in Computer Vision Schedule

Prof. Stella Yu, Stanley Hsieh, Yixing Wang MW 10:30-12, LCSIB1355, Fall 2025

Prerequisites: introductory computer vision, machine learning

Designation: EECS 542 counts toward breadth *or* depth in CSE, *not both*. You must choose one.

Scope: This course explores recent advancements in computer vision across multiple dimensions: 2D vision (e.g., image recognition and semantic segmentation), 3D vision (e.g., multiview geometry and scene reconstruction), 4D vision (e.g., dynamic scene synthesis, activity understanding) and robotics (e.g., perception, interaction, planning, and motor control). Homework assignments are related to, but not necessarily closely tied to, the lectures; rather, they are designed to provide hands-on experience and practical skills that complement the lecture content.

Requirements: This advanced computer vision course assumes prior proficiency in core machine learning and computer vision concepts; it does **not** cover foundational material. Instead, the focus is on broadening your perspective, deepening conceptual understanding, and critically evaluating modern approaches. In-person attendance, active participation in lectures and discussions, and timely homework submissions are all required.

Sign-Up: To request a registration override, please complete this sign-up form.

Homework must be submitted via Gradescope, linked through your Canvas page.

- Submissions are accepted with full credit decreasing linearly to zero over 5 days, at the rate of 1 point per hour, from 120 points on the due date to 0 point 120 hours after the due date.
- Homework will be graded promptly to provide timely feedback. Regrade requests are only accepted through Gradescope within 1 week of grades being released.

Grading:

1. 70% Homework (lowest 1 dropped)
2. 28% In-class mini-quizzes (one per lecture; lowest 6 dropped)
3. 02% Class feedback

Piazza Guidelines:

- We use Piazza for discussions on conceptual and technical questions among classmates. There is no anonymity. Please be respectful to your classmates.
- Please post your questions, answers, and comments in dedicated folders.
- Please check Piazza for already posted questions before posting a new one. Unnecessarily clogging up Piazza makes the platform less usable for everybody.
- Please use Piazza for all communications, private or public, as much as possible. Others will benefit from answers and discussions on public questions.

- Piazza is moderated by the teaching staff.

Email Policy:
- Please email syu-eecs542@umich.edu only if you are unable to use Piazza's private channel. Emails sent to individual instructor(s) or GSI(s) **will not receive a response**.
- This centralized communication ensures that your concerns are addressed promptly and consistently by the course staff.

Academic Integrity:
- While you are encouraged to discuss homework and lab assignments with other students, your programming work must be completed individually. You must also write up your solution on your own. You may not search for solutions online or copy from a friend. You can discuss problems but never share code. Cite any sources and inspirations.
- Please observe the Michigan Engineering Honor Code. The College of Engineering takes honor code violations seriously, and penalties are severe. Make sure that you clearly understand what constitutes a violation of the Engineering Honor Code.

Accommodations: We aim to provide an inclusive learning environment for all.
- To request disability-related academic accommodations, visit Services for Students with Disabilities sometime during the first three weeks of classes.
- Please feel free to reach out to the teaching staff if you encounter scheduling conflicts or learning barriers. We welcome feedback at any time during the course.

Support:
The Counseling and Psychological Services Center provides support for a variety of issues including mental health and stress.