CS 8001 ORI Syllabus

Human-Robot Interaction

Summer 2026

Instructor Information

Instructor of Record: Ana Rusch, ARusch3@gatech.edu

Primary Instructors:

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General Course Information

Description

This course is designed to expose students to the forefront of robotics research and development. This includes discussions on the latest technologies, methodologies, and challenges in the field. The course will incorporate a mix of lectures, guest presentations, optional project and interactive sessions with leading experts from academia and industry.

Course Learning Outcomes

Upon successful completion of this course, you should be able to:

1. Develop familiarity with key areas of robotics, including state-of-the-art research.
2. Engage with leading researchers and industry professionals.
3. Explore interdisciplinary links among robotics, machine learning, human-robot interaction, soft robotics, and medical robotics.

Required Course Materials

Additional readings will be added throughout the semester. These materials will either be publicly available online or provided specifically for this class. Students are encouraged to review these resources to enhance their understanding of seminar topics.

Course Requirements & Grading:

The success of this seminar series depends heavily on student engagement and attendance. There will be approximately 12 seminar sessions. This course is graded on a Pass/Fail basis. Therefore, your grade for this course will be primarily based on these components:

- **Attendance:** Regular attendance is crucial in this seminar course. Please inform us via email if you have an excused absence due to illness, travel, or other significant reasons to ensure it does not count against your attendance record. To pass, students must attend at least 9 sessions (75% of the total). Zoom attendance is noted except for the first session.

- **Missed Session**: If you are unable to attend, you must watch the session recording and submit a one-page summary ("speaker evaluation") to the instructor via a private Ed Discussion post by the following Wednesday at 12:30 p.m. A satisfactory evaluation will earn attendance credit for that session.

- **Participation:** Active participation is equally important and will be assessed through your involvement in discussions and the quality of your interactions with guest speakers. This includes asking relevant questions and contributing thoughtfully to seminar discussions. Engagement will be monitored during each session by the instructors and the moderator.

Note: There are no traditional exams for this course. Instead, your ability to engage with the material and contribute to discussions will be the primary criteria for assessment. We have a project as an optional component of the class.

Please attend the lectures or submit your summary in Ed to gain your participation points.

Workshops:
Guided by student feedback, we are refining the course structure and topics. This semester, we will introduce one or two workshops on robotics, human-robot interaction, and embedded systems. These workshops will provide hands-on experiences through virtual simulations, given the online format. They will be held during the usual class time

and link (Thursdays at 8 p.m. EST) on specific dates, replacing the speaker session for that week.

Potential workshop topics include:

- Introduction to ROS
- Human-Robot Interaction Simulator (Assistive Gym)
- Introduction to Embedded Systems and AI (including Jetson Orin Nano demonstrations with local LLMs and VLMs)

We welcome feedback on these workshops.

Project (Optional):
Based on last semester's feedback, many students expressed interest in projects related to robotics and AI. We are therefore offering an optional project which can be research-oriented, software-focused, or entrepreneurial in scope. Interested students should contact the instructor to schedule a meeting. If there is sufficient interest, we may organize a presentation or demo day, where participants can showcase their work and receive feedback.

Course Policies

Course Communication:

- A Canvas announcement with email notification.
- Ed announcement-You can ask questions and inform us about your absence in public or private.

Academic Integrity

Georgia Tech aims to cultivate a community based on trust, academic integrity, and honor. Students are expected to act according to the highest ethical standards. Review Georgia Tech's Honor Code and the student Code of Conduct.

Any student suspected of cheating or plagiarism on a quiz, exam, or assignment will be reported to the Office of Student Integrity, who will investigate the incident and identify the appropriate penalty for violations.

Accommodations for Students with Disabilities

If you are a student with learning needs that require special accommodation, contact the Office of Disability Services (404-894-2563) as soon as possible to make an appointment

to discuss your special needs and to obtain an accommodations letter. Please also e-mail me as soon as possible in order to set up a time to discuss your learning needs.

Student-Faculty Expectations Agreement

At Georgia Tech, we believe that it is important to strive for an atmosphere of mutual respect, acknowledgement, and responsibility between faculty members and the student body. The Student-Faculty Expectations articulate some basic expectations that you can have of me and that I have of you. In the end, simple respect for knowledge, hard work, and cordial interactions will help build the environment we seek. Therefore, I encourage you to remain committed to the ideals of Georgia Tech while in this class.