CS7633 Human-Robot Interaction Course Syllabus

Course Information

Course Prefix and Number: CS 7633
Credit Hours: 3
Instructor: Chernova, Sonia

Course Description

This course focuses on human-robot interaction (HRI) and social robot learning, exploring the leading research, design principles and technical challenges researchers face in developing robots capable of operating in real-world human environments. The course will cover a range of multidisciplinary topics, including physical embodiment, mixed-initiative interaction, multi-modal interfaces, human-robot teamwork, learning algorithms, statistical methods for HRI research, aspects of social cognition, as well as ethical and societal considerations. These topics will be pursued through independent reading, class discussion, case studies and a final project.

Course Learning Outcomes

Outcomes of this course include understanding of the challenges that embodied computing and robotics pose for the development of real-world systems, the ability to identify the advantages and disadvantages of different design choices, and knowledge of foundational algorithmic techniques designed to address those issues.

Required Course Materials

No textbooks or materials are required. Selected texts from conference and journal articles will be posted online.

Grading Policy

The course will include the following graded assessments:

- Reading Reflections –30% of grade
- Topic Co-Design – 20% of grade
- Course Project – 40% of grade
- Class Participation – 10% of grade

Attendance Policy

The course will meet in person. Much of the benefit from the course comes from participation in in-class discussions, and relatively little content will be recorded and available online. Attendance is strongly encouraged and active participation in class discussion is expected. Multiple project touch points and presentations will also take place throughout the semester.

Academic and Research Honesty/Integrity Statement

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 the Student Code of Conduct, Academic Honor Code and the Appendix A: Graduate Addendum to the Academic Honor Code, especially.

Students are expected to perform research in an ethical and responsible manner. All Doctoral and Master's Thesis students are required to take the Responsible Conduct of Research training, and it is expected that students abide by the principles taught in that training while performing research for this thesis course.

Allegations of scientific or scholarly misconduct are handled in accordance with the procedures outlined by the Policy for Responding to Allegations of Scientific or Other Scholarly Misconduct.

Accommodations for Students with Disabilities

If you are a student with learning needs that require special accommodation, contact the Office of Disability Services 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