

EECS 598: Engineering Interactive Systems for HCI



Course Description

Recent advances in the fields of Human-Computer Interaction and Ubiquitous Computing have focused on creating innovative devices and methods for user interaction, new ways of displaying information, and novel methods of sensing and understanding the state of users and their environment. This course will focus on both, reviewing the state-of-the-art of interactive systems and the technologies that enable them, as well as teaching the skills necessary to actually build these research prototypes.

Classroom instruction will focus on a review of current research topics and literature in technical HCI areas including interactive technologies, augmented reality, haptics, wearables, shape-changing interfaces, and more. Homework assignments will take the form of mini-projects designed to build hands-on skills in the use of laser cutters, 3D printers, sensing and signal acquisition circuits, embedded systems, PCB design, and machine learning for event and activity recognition. The class will culminate in a final project where teams of students will pitch, build, and demo a self-defined project using the skills developed in this course. In lieu of purchasing a course textbook, students will be expected to buy a lab kit.

Prerequisites

There are no formal prerequisites for this class. However, students should be comfortable programming in a desktop environment, have some basic understanding of analog circuits (inductors, resistors, capacitors, op-amps, etc.) and have some exposure to embedded computing (using either Arduinos or bare metal programming). If you have questions please ask the instructor.

Instructor:

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