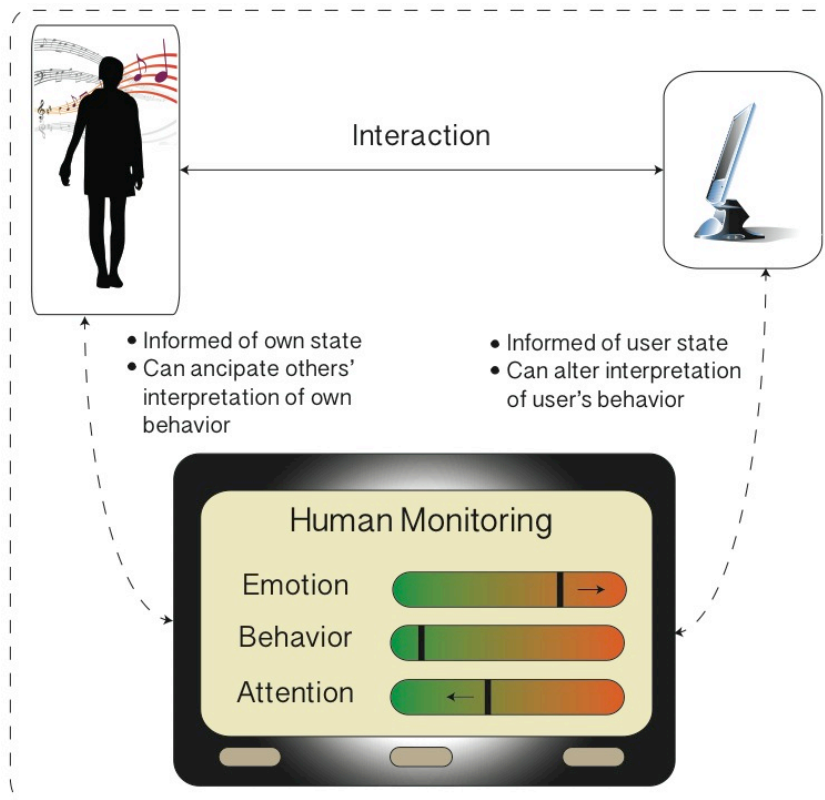# EECS 498: Intelligent Interactive Systems

How can we design the next Siri? What makes Google Voice work? What can we learn about from a user's speech patterns? IIS will provide students with the theory and methodology needed to conceive of, design, and implement human-interactive and human-centered systems. The focus of the course is developing effective speech-based user modeling for interactive systems. We will focus on a series of assistive domains that demonstrate the societal benefit of work in this field, including applications in: depression, autism, and aphasia. Topics will include basic speech modeling, feature handling techniques, data classification, visualization, and interactive system design. At the end of the course students will have a critical understanding of the techniques behind human-centered interactive systems and will be able to design computational tools that provide estimates of human behavior from observed cues.

The course will rely on projects as an instructional methodology. The projects will include the implementation of a basic speech-based emotion recognition system, moving to a user state modeling task focusing on autism detection, and ending with a semester-long project, leveraging the techniques discussed in course lectures and course projects. Prior experience with speech modeling is neither required nor assumed. The course evaluation will include homework, a midterm/final exam, and a final project. Open to EECS juniors and up; all other engineering and science seniors and graduate students with consent of instructor.

Course website: http://eecs.umich.edu/~emilykmp/IIS/Winter2014/