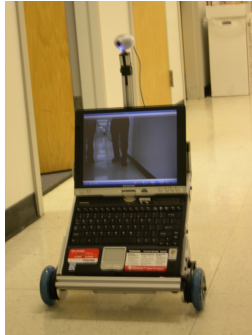


Course Announcement

Fall 2005

Perceptual Robotics

CMSC498F



In recent years with the advent of mobile robots there has been an increased interest in the field of Robotics. As opposed to the classical robotic industrial manufacturing systems which are stationary and designed to perform repetitive tasks in specific places, mobile robots should work with and for people and thus operate in our everyday environments. To do so they need to be able to acquire knowledge through perception; they need to take sensor measurements from which they extract meaningful information.

The emphasis of this class is on the study of visual space-time representations for navigation tasks. In particular, the tasks of locomotion, obstacle avoidance, path planning, map building for homing, and some recognition of actions will be explored. The class will be centered around a number of projects through which we explore the necessary tools, which range from vision and image based control over learning and associative memory to planning. There will be both theory and laboratory sessions. Students are expected to perform three to four projects, which will be implemented on the ER1 robotics platform using OpenCV and Matlab. The class is open to undergraduate and graduate students from CMPS with different project requirements.

Instructors: Cornelia Fermüller and Abhijit Ogale

Instruction: MW..... 3:00pm- 4:15pm

Prerequisite: CMSC420 or equivalent or permission of instructor.