Autonomous multi-robot systems

RoboCup (http://www.robocup.org/) is an international research and education initiative. Its goal is to foster artificial intelligence and robotics research by providing a standard problem where a wide range of technologies can be examined and integrated. We have been participating in the RoboCup Standard Platform League starting from RoboCup-2001 with the team Cerberus. In that league, we are working on the development of autonomous robotic soccer playing teams. Our research focus is robotic vision, multi-agent planning, self localization, and bipedal walking. The details can be found here (http://robot.cmpe.boun.edu.tr/~cerberus/wiki/doku.php).

Equipment

- RoboCup Standard Platform League Field.
- 5 Nao V4 robots
- 5 Nao V3.2 robots

Lab Users

- Our lab is used by the members of Cerberus team. Currently the team members are:
  - Yiğit Yıldırım (PhD Student)
Ongoing PhD Theses

- Barış Gökçe, Transfer Learning By Subgoal Discovery in Partially Observable Dynamic Environments
- Nezih Ergin Özkucur, Semi-Supervised Map Learning and Navigation in Dynamic Environments Through Human Robot Interaction
- Okan Aşık, Scalable Multi-Agent Decision Making Algorithms for Real World Problems

Completed PhD Theses

- Tekin Meriçli, Case Based Mobile Manipulation, 2014 (Currently in National Robotics Engineering Center (NREC) of the Robotics Institute at Carnegie Mellon University)

Ongoing MSc Theses

- Bahar İrфан, Manipulation and Placement Planning for Loading a Dishwasher by a Robot
- Ünal Altınay, Development of a Five Degrees Of Freedom Robot Arm and a Three Finger End Effector Capable of Grasping Objects
- M. Murat Sevim Coordinating Arm and Body Movement of a Mobile Robot for Door Opening

Completed MSc Theses

• Binnur Görer, Developing a Fitness Coach Robot for Elderly People in Assisted Living Environments, 2013.


• Caner Kurtul, Road Lane and Traffic Sign Detection and Tracking, 2010.


• Tekin Meriçli, Braitenberg Soccer: Learning How to Play Soccer with Primitive Behaviors, 2008.