TOPIC	Symbolic Planning
ORGANIZERS	Student Leadership Council and Faculty of ACIT Institute and TECHLAV Center
AREA	Hybrid control systems, Robotics, Tasking and planning
SPEAKER	Laya Shamgah
DATE	Friday Mar. 18th, 2016
TIME	3-4PM (EST)
VENUE	Fort IRC 410, North Carolina A&T State University, UTSA and SIPI will be joining through video-conferencing
FEES	No Charge

SYNOPSIS

Motion planning is an important problem in robotics. To address this problem, it is required to develop computationally effective, formal mathematical frameworks to automatically generate continuous control strategies in order to drive the robots to accomplish a given task, while satisfying a desired specification. Traditionally, it is used to consider the motion planning problem as a simple optimal reachability problem in the form of "go from A to B". Although these methods solve the basic path planning problems, it is difficult to employ these methods to construct controllers for complex task specifications, such as avoiding obstacles, coverage of an area, and sequence of visiting different regions in a particular order. In this talk, symbolic motion planning and control techniques will be presented as capable alternative solutions for complex motion planning problems. Symbolic motion planning is the art of solving the motion planning problem in an abstract form by using methods of formal logic, languages, and hybrid supervisory control. These symbolic techniques solve the complex motion planning problems in an efficient way and can potentially be applied to planning for a team of robots.

ABOUT THE SPEAKER

Laya Shamgah received her Bachelor degree in Electrical Engineering from the Polytechnic University, Tehran, Iran, in 2009, and her Master of Science in Electrical Engineering- Control Systems from the Sharif University of Tehran, Iran, 2011. She is currently a PhD student at North Carolina A&T State University since 2014. Her research interests include cooperative control, multi-agent systems, hybrid systems and game theory.