

Lecturer: Hadas Kress-Gazit
Department of Electrical and Systems Engineering, University of Pennsylvania

Title: Finding Nemo: Translating reactive tasks to reactive controllers

Abstract:

"Search for Nemo and if you find him transmit your location". Wouldn't it be nice if we could say that to our robot, and then have it do exactly that no matter where Nemo is? In this talk I will describe a framework in which a user specifies a complex and reactive task in structured English. This task is then automatically translated, using tools from the formal methods world, into a hybrid controller. This controller is guaranteed to control the robot such that its motion and actions satisfy the intended task, under some assumptions, in a variety of different environments. Furthermore, this framework can handle tasks involving multiple robots in a decentralized way.