

**THE DEPARTMENT OF COMPUTER SCIENCE & THE COMPUTER SCIENCE GRADUATE
STUDENT ORGANIZATION (GSOCS) PRESENT**

INVITED SPEAKER SERIES

co-sponsored with GSO and partially paid for by student activity fees

**Professor Peter Stone
University of Texas at Austin**

Monday, April 29th at 12 noon, Lecture Hall 7

**Efficient Robot Skill Learning: Grounded Simulation Learning and
Imitation Learning from Observation**

Abstract: For autonomous robots to operate in the open, dynamically changing world, they will need to be able to learn a robust set of skills from relatively little experience. This talk begins by introducing Grounded Simulation Learning as a way to bridge the so-called reality gap between simulators and the real world in order to enable transfer learning from simulation to a real robot. It then introduces two new algorithms for imitation learning from observation that enable a robot to mimic demonstrated skills from state-only trajectories, without any knowledge of the actions selected by the demonstrator.

Grounded Simulation Learning has led to the fastest known stable walk on a widely used humanoid robot, and imitation learning from observation opens the possibility of robots learning from the vast trove of videos available online.

Bio: Dr. Peter Stone is the David Bruton, Jr. Centennial Professor and Associate Chair of Computer Science, as well as Chair of the Robotics Portfolio Program, at the University of Texas at Austin. In 2013 he was awarded the University of Texas System Regents' Outstanding Teaching Award and in 2014 he was inducted into the UT Austin Academy of Distinguished Teachers, earning him the title of University Distinguished Teaching Professor. Professor Stone's research interests in Artificial Intelligence include machine learning (especially reinforcement learning), multiagent systems, robotics, and e-commerce. Professor Stone received his Ph.D. in computer Science in 1998 from Carnegie Mellon University. From 1999 to 2002 he was a Senior Technical Staff member in the Artificial intelligence Principles Research Department at AT&T Labs – Research. He is an Alfred P. Sloan Research Fellow, Guggenheim Fellow, AAAI Fellow, IEEE Fellow, AAAS Fellow, Fulbright Scholar, and 2004 ONR Young Investigator. In 2003, he won an NSF CAREER award for his proposed long term research on learning agents in dynamic, collaborative, and adversarial multiagent environments, in 2007 he received the prestigious IJCAI Computers and Thought Award, given biannually to the top AI researcher under the age of 35, and in 2016 he was awarded the ACM/SIGAI Autonomous Agents Research Award. Professor Stone co-founded Cogitai, Inc., a startup company focused on continual learning, in 2015, and currently serves as President and COO.