Leveraging Structure to Efficiently Make Good Decisions in an Uncertain World

Abstract:
Making good sequential decisions under uncertainty is a core part of what it means to be intelligent. In this talk I will discuss several algorithms that leverage structure common in diverse problem classes in order to efficiently make decisions in dramatically larger domains. I will present results from my robotics work, and I will also share results of a field study in Bangalore, India demonstrating that an adaptive tutoring software game designed for low resource schools has the potential to increase student engagement. This field trial is part of an ongoing research thrust towards improving student learning by addressing the sequential decision making challenges that arise in education.

Biography:
Emma Brunskill is an Assistant Professor in the Computer Science Department at Carnegie Mellon University. She was previously a NSF Mathematical Sciences Postdoctoral Fellow at the University of California, Berkeley. She completed her PhD in Computer Science at MIT on a NSF Graduate Fellowship and her masters in Neuroscience at Oxford University as a Rhodes Scholar. Her research interests include artificial intelligence, machine learning, human-robot interaction and information communications technology for international development.

Host: Adrien Treuille
For appointments, please contact Stephanie Matvey (smatvey@cs.cmu.edu).