Pieter Abbeel
Director, Berkeley Robot Learning Lab
Co-Director, Berkeley Artificial Intelligence (BAIR) Lab
UC Berkeley

Deep Learning for Robotics

Abstract: Programming robots remains notoriously difficult. Equipping robots with the ability to learn would by-pass the need for what otherwise often ends up being time-consuming task specific programming. This talk will describe recent progress in deep reinforcement learning (robots learning through their own trial and error), in apprenticeship learning (robots learning from observing people), and in meta-learning for action (robots learning to learn). This work has led to new robotic capabilities in manipulation, locomotion, and flight, with the same approach underlying advances in each of these domains.

Brief Bio: Professor Pieter Abbeel is Director of the Berkeley Robot Learning Lab and Co-Director of the Berkeley Artificial Intelligence (BAIR) Lab. Abbeel's research strives to build ever more intelligent systems, which has his lab push the frontiers of deep reinforcement learning, deep imitation learning, deep unsupervised learning, transfer learning, meta-learning, and learning to learn, as well as study the influence of AI on society. His lab also investigates how AI could advance other science and engineering disciplines. Abbeel's Intro to AI class has been taken by over 100K students through edX, and his Deep RL and Deep Unsupervised Learning materials are standard references for AI researchers. Abbeel has founded three companies: Gradescope (AI to help teachers with grading homework and exams), Covariant (AI for robotic automation of warehouses and factories), and Berkeley Open Arms (low-cost, highly capable 7-dof robot arms), advises many AI and robotics start-ups, and is a frequently sought after speaker worldwide for C-suite sessions on AI future and strategy. Abbeel has received many awards and honors, including the PECASE, NSF-CAREER, ONR-YIP, Darpa-YFA, TR35. His work is frequently featured in the press, including the New York Times, Wall Street Journal, BBC, Rolling Stone, Wired, and Tech Review.

Host: David Held

For More Information: Stephanie Matvey (smatvey@andrew.cmu.edu)