Translational AI Center (TrAC) Seminar – Spring 2022

Oliver Kroemer

January 28 at 12:00 noon (US Central Time)

https://iastate.zoom.us/j/92178103551?pwd=dlNCa2l0ckVBTEVyR1JEN2Y3b21XQT09

Structuring Manipulation Tasks for More Efficient Learning

In the future, we want to create robots with the robustness and versatility to operate in unstructured and everyday environments. To achieve this goal, robots will need to learn manipulation skills that can be applied to a wide range of objects and task scenarios. In this talk, I will be presenting recent work from my lab on structuring manipulation tasks for more efficient learning. I will discuss how modularity can be used to break down challenging manipulation tasks to learn general object-centric solutions. I will then focus on the question of: what to learn? I will discuss how robots can identify the scope of models as well as determine when to learn a skill. I will conclude by discussing how robots can use interactions and multimodal sensing to learn manipulation-oriented representations of different types of materials

Short Bio

Dr. Oliver Kroemer is an assistant professor at the Carnegie Mellon University (CMU) Robotics Institute where he leads the Intelligent Autonomous Manipulation Lab. His research focuses on developing algorithms and representations to enable robots to learn versatile and robust manipulation skills. Before joining CMU, Dr. Kroemer was a postdoctoral researcher at the University of Southern California (USC) for two and a half years. He received his Masters and Bachelors degrees in engineering from the University of Cambridge in 2008. From 2009 to 2011, he was a Ph.D. student at the Max Planck Institute for Intelligent Systems. He defended his Ph.D. thesis on Machine Learning for Robot Grasping and Manipulation in 2014 at the Technische Universitaet Darmstadt.

This is a special seminar jointly organized by AIIRA and COALESCE projects