

Professor Monroe Kennedy

Abstract: “Considerations for Human-Robot Collaboration”

Over the past few decades, robotics has matured from precision in repetitive manufacturing tasks towards autonomy in unstructured environments. Recent advancements in robotics provide robots the potential to become formidable teammates with humans in collaborative tasks. In this talk, we will discuss considerations for effective robotic teammates, emphasizing the importance of modeling, which is necessary for the prediction of the task as well as of the collaborator(s). We will examine the system comprised of the Human, robot, and task and the associated perception-action relationships with considerations for how we can improve the robot's ability to monitor and model this combined system and become an effective collaborator.

Bio: Monroe Kennedy III is an assistant professor in Mechanical Engineering at Stanford University. He leads the Assistive Robotics and Manipulation laboratory (arm.stanford.edu), which will develop robotic assistants by focusing on combining modeling and control techniques together with machine learning tools. Together, these techniques will improve performance for tasks that are highly dynamic, require dexterity, have considerable complexity and require human-robot collaboration. Prof. Kennedy received his Ph.D. in Mechanical Engineering and Applied Mechanics and Masters in Robotics at the University of Pennsylvania, advised by Dr. Vijay Kumar, with a focus in robotics in the GRASP Lab. He was the recipient of GEM and NSF graduate fellowships. During his graduate studies, his research focused on increasing the abilities and effectiveness of robotic mobile manipulators performing complex service tasks in unstructured environments with considerations for working alongside human collaborators.