



ROBOTICS & IOT SEMINAR

Power Women of Robotics Series

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Perception-Action Synergy in Uncertain Environments

Friday, Mar 25, 2022, 3:30pm, Zoom

Abstract: Many robotic applications require a robot to operate in an environment with unknowns or uncertainty, at least initially, before it gathers enough information about the environment. In such a case, a robot must rely on sensing and perception to feel its way around. Moreover, perception and motion need to be coupled synergistically in real time, such that perception guides motion, while motion enables better perception. In this talk, I will introduce our research in combining perception and motion of a robot to achieve autonomous contact-rich assembly, object modeling, recognition, and constrained manipulation in uncertain or unknown environments, under force/torque, RGBD, or touch sensing. I will also introduce our recent work on integrated semantic SLAM and accurate loop closure detection.



Bio: Jing Xiao received her Ph.D. degree in Computer, Information, and Control Engineering from the University of Michigan, Ann Arbor, Michigan. She is the Deans' Excellence Professor, William B. Smith Distinguished Fellow in Robotics Engineering, Professor and Head of the Robotics Engineering Department, Worcester Polytechnic Institute (WPI). She joined WPI as the Director of the Robotics Engineering Program in 2018 from the University of North Carolina at Charlotte, where she received the College of Computing Outstanding Faculty Research Award in 2015. She led the Robotics Engineering Program to become the Robotics Engineering Department in July 2020. Jing Xiao is an IEEE Fellow.



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