Title

Motion Planning for Humanoids for Task Completion in Constrained Environments

Presenter

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Abstract

This lecture will review task and motion planning topics including but not limited to optimization-based methods, contact modeling, and contact-implicit trajectory optimization.

Bio

Dr. Padir received his PhD and MS degrees in electrical and computer engineering from Purdue University. He holds a BS in electrical and electronics engineering from the Middle East Technical University in Turkey. His research interests include supervised autonomy for humanoid robots, shared autonomy for intelligent vehicles, and human-in-the-loop control systems. His projects have been sponsored by NSF, NASA, DOE-EM, DARPA, and numerous industry partners. Dr. Padir led project teams for the NASA Sample Return Robot Centennial Challenge, SmartAmerica Challenge and the DARPA Robotics Challenge. He currently leads one of two research groups selected by NASA to develop autonomy for the humanoid robot Valkyrie, designed by the NASA Johnson Space Center. Dr. Padir teaches Engineering Algorithms at the undergraduate level, and Mobile Robotics, Principles of Assistive Robotics, and Humanoids Robotics at the graduate level on a rotating basis.