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Automatic
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Systems
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The Department of Automatic Control & Systems Engineering
is pleased to announce the following seminar:

Soft-Bubble grippers for robust and perceptive manipulation

Dr Naveen Kuppuswamy

*Senior Research Scientist in Robotics
Toyota Research Institute in Cambridge,
MA, USA*

Wednesday, 29 April 2020 at 14:00

Via Google Meet

Host Academic: Dr Shuhei Miyashita, Lecturer in ACSE

Abstract

The Toyota Research Institute (TRI) has been investigating the problem of achieving robust manipulation in home environments towards providing assistance. Manipulation in cluttered environments like homes requires stable grasps, precise placement and robustness against external contact. In this talk, I will present some of TRI's most recent results in the domain of soft robotics - the Soft-Bubble gripper system that comprises a highly compliant gripping surface and dense-geometry visuotactile sensing. The talk will outline the motivations, mechanical design iterations and the perception algorithms that have been developed to leverage the sensing capabilities of the gripper.

Biography

Naveen Kuppuswamy received a Bachelor of Engineering at Anna University, Chennai, India, MS in Electrical Engineering at the Korea Advanced Institute for Science and Technology and a PhD in Artificial Intelligence at the University of Zurich, Switzerland. After graduation, he spent a year as a Postdoctoral Fellow at the Italian Institute of Technology, Genova, Italy. Since 2016 he has been with the Toyota Research Institute at Cambridge, MA, USA and is currently a Senior Research Scientist in Robotics. His current research interests include soft robotics, tactile sensing and contact mechanics.