SEMINAR ANNOUNCEMENT

DEPARTMENT OF ELECTRICAL AND COMPUTER ENGINEERING
COLLEGE OF DESIGN AND ENGINEERING
Website: https://cde.nus.edu.sg/ece

Area: Control, Intelligent Systems & Robotics

Host: Prof. Sam Ge Shuzhi

TOPIC	:	**Neural Network Assisted Robotic Manipulator Control**
SPEAKER	:	**Mr Soham Sheel Saini** **Graduate Student, ECE Dept, NUS**
DATE	:	**Monday, 25 April 2022**
TIME	:	**10.00AM to 11.00AM**
WEBINAR	:	**Join Zoom Meeting** **https://nus-sg.zoom.us/j/84349826089?pwd=NitnNzJzdHowcmNld0JTdGZMSVRjQT09** **Meeting ID: 843 4982 6089** **Passcode: 392826**

ABSTRACT

Accurate control of a robotic manipulator allows its user to be able to accomplish multiple tasks easily. It is intuitive for humans to define desired trajectories in the task-space or in xyz-coordinates, however, robots are not able to directly make use of these trajectories. This requires the 3D task-space to be converted to a coordinate system that is directly usable by the robot. While traditional methods for this do exist, these solutions are time consuming to find and the solution may not be easily obtainable.

The other big challenge when controlling a robotic manipulator is to be able to control a robot manipulator while being aware of the dynamics of its links and their influence on each other. This makes traditional methods, such as PID unreliable as they are not able to account for the dynamics of the system and pre-tuned parameters may not be able to keep up with changes in trajectories.

This seminar presents modern methods to solve these two problems, allowing them to become the basis for more intuitive methods of control.

BIOGRAPHY

Soham Sheel Saini received his B.Eng in Engineering Science from National University of Singapore in 2020. He is currently pursuing his M.Eng degree with the Department of Electrical and Computer Engineering, National University of Singapore.

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