

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 (CISR)

Host: Assoc Prof Prahlad Vadakkepat

TOPIC	:	Real-time Vision Measurement for Large Precast Components Installation
SPEAKER	:	Mr Liang Yuanchang Graduate Student, ECE Dept, NUS
DATE	:	Wednesday, 7 January 2026
TIME	:	10:30AM-11:30AM
VENUE	:	Join Zoom Meeting https://nus-sg.zoom.us/j/84577675942?pwd=bkhYY3dmczJNa2FkVTVjYVByKzUxQT09 Meeting ID: 845 7767 5942 Passcode: 556446

ABSTRACT

The installation of a lifted precast concrete component on the construction floor requires accurate alignment with its target position. Current site practice relies on manual adjustment of workers by trial and error. Digitalization of the pose of the lifted precast unit is desired to achieve safe, fast and reliable adjustment for the position and rotation. To fill this gap, this study proposes a data-efficient real-time vision measurement method by a monocular RGB camera on the lifting frame. The experiments demonstrate that the measurement accuracy is even better than the latest commercially available stereo cameras. The proposed method is ready to deploy on the real construction site and accelerate the adjustment process by providing digital feedback for both manual and automated adjustment.

BIOGRAPHY

Liang Yuanchang is currently a PhD student at the Department of Electrical and Computer Engineering, National University of Singapore. His research interests include data-efficient robot learning and automation for construction.

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