

CREST



SCHEDULE

(This is a series of 3 talks)

- First talk (fixed): **October 15th, 9:00~10:30**
- Second talk※: **October 29th, 9:00~10:30**
- Third talk ※: **November 5th, 9:00~10:30**

Zoom URL (unchanged for 3 talks):

<https://jaist-ac-jp.zoom.us/j/87840898248?pwd=iQgrJVXZqRVpdP1yMC6etMtgDEKfkP.1>

Meeting ID: 878 4089 8248

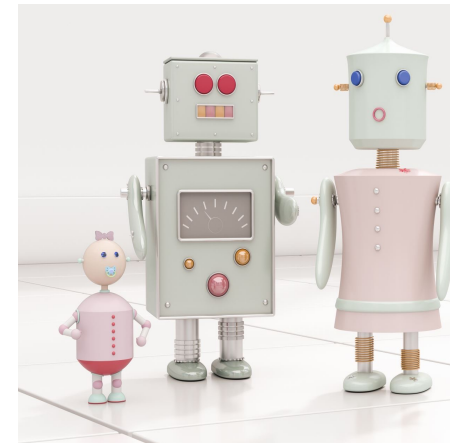
Passcode: 261491

※might be subjected to change (with notification)

ONLINE LECTURE

TRENDS, CHALLENGES, AND
OUTLOOK IN **ROBOT LEARNING**:
TOWARD SAFE AND
GENERALIZABLE ROBOTS
THROUGH MULTIMODAL CROSS-
EMBODIMENT LEARNING

Dr QUAN LUU
Purdue University



SPEAKER BIO



Dr QUAN LUU

Postdoctoral researcher at Purdue University.

<https://quan-luu.github.io>

His research interests lie in creating **soft** and sensorized **multimodal** robotic bodies, especially those with a **sense of touch**, and leveraging them in robot learning and control systems. His work aims to enable robots to perform skilled and flexible manipulation, particularly in scenarios where **contact** and **safe interaction** with objects and surroundings are crucial.



ABSTRACT

Robot learning has advanced rapidly with progress in large-scale imitation learning, reinforcement learning, and vision–language–action (VLA) models, enabling robots to perceive and act more effectively in unstructured environments. However, achieving safe and generalizable behaviors across diverse tasks and embodiments remains a major challenge.

This talk will review recent trends in learning paradigms, scalable data collection, and foundation models, highlighting challenges in data diversity, embodiment transfer, safety, and robustness. I will also share an outlook on multimodal cross-embodiment learning—integrating novel robotic devices with hierarchical strategies from low-level control to high-level reasoning—as a pathway toward safe, adaptive, and generalizable robot systems.

