

TATSUYA KAMIJO

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EDUCATION

The University of Tokyo (Tokyo, Japan) Oct. 2024 - present
Master of Engineering (Dept. of Technology Management for Innovation)

The University of Tokyo (Tokyo, Japan) Apr. 2020 - Mar. 2024
Bachelor of Engineering (Dept. of Mechanical Engineering)
Relevant courses: Robot Intelligence, Robot System, Systems Control, Statistical Machine Learning

RESEARCH EXPERIENCE

OMRON SINIC X (Tokyo, Japan) Oct. 2023 - present
Part-time Research Intern, Robotics team

- Developed Comp-ACT, an imitation learning method for position-controlled robots to learn variable compliance control for contact-rich manipulation by predicting both Cartesian EE pose and stiffness parameters.
 - Paper accepted to **IROS 2024 (Oral)**.

Matsuo-Iwasawa Lab, The University of Tokyo (Tokyo, Japan) Nov. 2022 - present
Research Assistant, mentored by Dr. Tatsuya Matsushima and Prof. Yusuke Iwasawa

- Leading a project on transfer learning of force-based skills leveraging the generalizability of vision modality in robotic foundation models.
 - Implemented 4ch bilateral control with disturbance observer (DOB) and reaction force observer (RFOB) in C++ to transmit force applied to the follower robot to the leader robot during robot teleoperation.

GV Lab, The University of Tokyo (Tokyo, Japan) Oct. 2022 - Mar. 2023
Undergraduate Researcher, under Prof. Gentiane Venture

- Developed a tactile-aware system for robotic peg-in-hole tasks using force control and active inference.
 - Collaborated with National Institute of Advanced Industrial Science and Technology (AIST)

PROFESSIONAL EXPERIENCE

Software Engineer Intern Aug. 2022 - Sep. 2022
Excite Japan Co., Ltd.

- Developed front-end features of a voice call application using Flutter/Dart, which is officially released.
- Developed a back-end user authentication for a manga application using Java (RxJava), Kotlin, and Firebase.

Hardware Engineer Intern Aug. 2022 - Aug. 2022
Telexistence Inc.

- Prototyped an external jig for attaching a first-person view camera to an industrial robot, enhancing VR teleoperation capabilities.

TEACHING EXPERIENCE

AI Application Project

Apr. 2024 - present

Teaching Assistant, The University of Tokyo

- Guide undergrad/grad students from various fields through the integration of machine learning with robotic systems, focusing on practical applications in a project-based course.

Monozemi - Introductory Practical Engineering Course

Apr. 2023 - July. 2023

Teaching Assistant, The University of Tokyo

- Mentored junior undergraduate students in the fundamentals of mechatronics, covering microcomputing, programming, and sensor technologies.
- Utilized JavaScript and micro:bit to provide hands-on learning experiences.

PUBLICATIONS

1. M. Aburub*, C. C. Beltran-Hernandez*, T. Kamijo, M. Hamaya, "Learning Diffusion Policies from Demonstrations For Compliant Contact-rich Manipulation", Under Review, 2024.
*Equal contribution.
2. T. Kamijo*, C. C. Beltran-Hernandez*, M. Hamaya, "Learning Variable Compliance Control From a Few Demonstrations for Bimanual Robot with Haptic Feedback Teleoperation System." **IROS 2024 (Oral)**.
*Equal contribution.
3. T. Kamijo, T. Iiyama, Y. Oshima, G. Venture, T. Matsushima, Y. Matsuo, and Y. Iwasawa. "Tactile In-Hand Pose Estimation through Perceptual Inference". (IROS 2023 Workshop on World Models and Predictive Coding in Cognitive Robotics, **Spotlight Talk**).
4. T. Kamijo, I. G. Ramirez-Alpizar, E. Coronado, G. Venture, "Tactile-based Active Inference for Force-Controlled Peg-in-Hole Insertions", arXiv preprint arXiv:2410.02595arand, 2023.

ACADEMIC SERVICE

- Reviewer for IEEE International Conference on Robotics and Automation (ICRA), 2025

SKILLS

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|------------------|---|
| Technical Skills | ROS, PyTorch, MuJoCo, robosuite, 3D CAD, Unity, Web application development |
| Coding | Python, C++, C#, MATLAB, Dart, Java, Kotlin, JavaScript |
| Robots | UR5e (Universal Robots), CRANE-X7 (RT Corp.), xArm7 (UFACTORY) |

AWARDS

- **Keyence Foundation Scholarship** (300000 yen, approximately \$2030 USD as of 2023) / July 2023
- **3rd Winner** in ICRA 2023 Virtual Manipulation Challenge Assembly Track. / June 2023
Tackled industrial insertion tasks in MuJoCo primarily using visual servoing via ROS interface.
- **Grand Prize** in the 21st Mechatronics Cup / Dec. 2022
Awarded the top honor out of 12 teams in an engineering competition at UTokyo Mechanical Engineering Department. [video](#).
- **Honorable Mention** in Japan Physics Olympiad 2019 / Aug. 2019
- **Grand Prize** in the 8th Kagakuno-Koshien Chiba / Dec. 2018
Led a team of 8 students to win a multidisciplinary science competition, covering both theoretical and practical challenges across various scientific fields.