

TATSUYA KAMIJO

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OBJECTIVE

As a recent graduate with a Bachelor's degree in March 2024, I am actively seeking a Master's and PhD position commencing Fall 2024. My academic and research interests are centered on developing technologies that enhance robotic capabilities to achieve safe, human-level manipulation skills in dynamic environments.

EDUCATION

The University of Tokyo (Tokyo, Japan)

Bachelor of Engineering in Mechanical Engineering

Apr. 2020 - Mar. 2024

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 a method to learn contact-rich manipulation tasks from a few demonstrations.
 - Submitted to IROS 2024 as a first author.

Matsuo 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 vision-based robotics foundation models.
- Investigated the use of tactile modality in combination with world models and predictive coding to acquire better manipulation skills [1, 2].

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 [3].
 - 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 tele-operation capabilities.

TEACHING EXPERIENCE

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.
- Assisted in grading and provided personalized feedback to enhance student comprehension and performance.

AI Application Project

Apr. 2024 - present

Teaching Assistant, The University of Tokyo

- Guide students through the integration of deep learning and machine learning with robotic systems, focusing on practical applications like adaptive and safe robotic manipulation.

PUBLICATIONS

Conference Papers

- [1] **T. Kamijo**, T. Iiyama, Y. Oshima, G. Venture, T. Matsushima, Y. Matsuo, and Y. Iwasawa. “Tactile In-Hand Pose Estimation through Perceptual Inference”. In: *2023 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS) Workshop on World Models and Predictive Coding in Cognitive Robotics*. 2023 (also selected as a spotlight talk). [short paper](#).
- [2] **T. Kamijo**, K. Ishimoto, T. Matsushima, Y. Iwasawa, and Y. Matsuo. “Visuotactile Learning with World Models”. In: *Proceedings of the 37th Annual Conference of the Japanese Society for Artificial Intelligence*. 2023. [paper in Japanese](#).
- [3] **T. Kamijo**, I. G. Ramirez-Alpizar, E. Coronado, and G. Venture. *Tactile-based Active Inference for Force-Controlled Peg-in-Hole Insertions*. 2023. arXiv: [2309.15681](#). [video](#).

SKILLS

Technical Skills	PyTorch, ROS, MuJoCo, Gazebo, robosuite, Unity, 3D CAD, Web application development
Coding	Python , C#, MATLAB, Dart, Java, Kotlin, JavaScript
Robots	UR5e (Universal Robots), xArm 7 (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
Developed codes for controlling a 7 Degrees of Freedom robot arm in MuJoCo to execute industrial insertion tasks 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 a prestigious engineering competition at UTokyo Mechanical Engineering Department that integrates mechanical design and electronic control. [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.