Kentaro Fujii

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Education

Keio University (Kanagawa, Japan)
Doctor of Engineering (School of Integrated Design Engineering)   Apr. 2025 - present

Keio University (Kanagawa, Japan)
Master of Engineering (School of Integrated Design Engineering)   Apr. 2023 - Mar. 2025

Keio University (Kanagawa, Japan)
Bachelor of Engineering (Dept. of Electronics and Electrical Engineering)   Apr. 2020 - Mar. 2023

Relevant courses: Robot Learning, Imitation Learning, Active Inference, Free Energy principle, Deep Learning, World Model

Research Experience

Murata Lab, Keio University (Kanagawa, Japan)
Research Assistant, mentored by Assoc. Prof. Shingo Murata   Oct. 2023 - Mar. 2025

- Leading a project on developing robot control frameworks based on deep imitation learning and a computational theory of the human brain.
- Implementing control libraries or applications with ROS/Python for several robots (e.g. Stretch 3, Low-cost Robot, etc.)

Publications

Journal Articles

1. Kentaro Fujii, Takuya Isomura, and Shingo Murata, "Real-World Robot Control Based on Contrastive Deep Active Inference with Demonstrations," IEEE Access, Vol. 12, pp. 172343–172357, 2024. DOI: 10.1109/ACCESS.2024.3477306

International Conference Proceedings

1. Ko Igari, Kentaro Fujii, Gabriel W. Haddon-Hill, and Shingo Murata, "Selection of Exploratory or Goal-Directed Behavior by a Physical Robot Implementing Deep Active Inference," The 5th International Workshop on Active Inference (IWAI 2024), pp. 165–178, Oral Presentation, Oxford, UK, September 2024. DOI: 10.1007/978-3-031-77138-5_11

2. Kentaro Fujii and Shingo Murata, "Hierarchical Latent Dynamics Model with Multiple Timescales for Learning Long-Horizon Tasks," In Proceedings of the 13th IEEE International Conference on Development and Learning (ICDL 2023), pp. 479–485, Oral Presentation (Acceptance Rate: 65%), Macau, China, November 2023. DOI: 10.1109/ICDL55364.2023.10364442

International Conference Abstract

1. Kentaro Fujii, Takuya Isomura, and Shingo Murata, "Deep Active Inference with Reconstructive and Contrastive Learning," The 5th International Workshop on Active Inference (IWAI 2024), Poster Presentation, Oxford, UK, September 2024.

2. Kentaro Fujii, Takuya Isomura, and Shingo Murata, "Real-World Robot Control Based on Contrastive Active Inference with Learning from Demonstration," The 4th International Workshop on Active Inference (IWAI 2023), Poster Presentation, Ghent, Belgium, September 2023.

Professional experience

Computar Vision Research and Development Intern

Sony Semiconductor Solutions Corporation   Feb. 2025 - Feb. 2025

Teaching experience

Machine Learning Basics

Teaching Assistant, Keio University   Oct. 2023 - Feb. 2024, Oct. 2024 - Feb. 2025

Electrical and Information Engineering Seminar II

Teaching Assistant, Keio University   Oct. 2023 - Feb. 2024, Oct. 2024 - Feb. 2025

Skills

Technical Skills	ROS, PyTorch, MuJoCo, DeepMind Control Suite
Coding	Python, Kotlin
Robots	Stretch 3 (Hello Robot), xArm7 (UFACOTRY), etc.
Dev Tools	NeoVim, Zellij (terminal multiplexer), ssh

Award & Honors

- **Outstanding Student Award** of SICE   Mar. 2025
- **Mori Memorial Foundation for Manufacturing Technology Research Scholarship** (10,200,000 yen)   Apr. 2023 - Mar. 2025
- **Student Encouragement Prize** in IPSJ 2024   Mar. 2024
- **Mori Kei and L.R. Klein Scholarship** (1,142,500 yen)   Apr. 2024
- **Keio University Graduate School Scholarship** (500,000 yen)   Apr. 2023
- **Excellence Award** (in Geek Ten 2022: making the world more convenient)   Sep. 2022