

Daichi Kusumoto

Curriculum Vitae

Incoming Ph.D. Student, Department of Computer Science, University of Maryland, College Park

✉ daichi@umd.edu | 🌐 bugpiece.github.io

Education

University of Maryland, College Park

College Park, MD, USA

Ph.D. in Computer Science

Aug 2026 –

- Embodied Dynamics Laboratory. Advisor: Prof. Jun Nishida.
- Research area: human–computer interaction, haptics, sensory augmentation, motor skill acquisition, wearable interfaces, electrical muscle stimulation.

Graduate School of Design, Kyushu University

Fukuoka, Japan

Master of Design

Oct 2023 – Sep 2025

- Department of Human Life Design and Science (GPA: 4.00 / 4.00).
- Research area: ergonomics, assistive technology, exoskeletons, motor control, techno-adaptability.

The Open University of Japan

Distance Learning Program

Bachelor of Liberal Arts (transfer admission)

Oct 2021 – Sep 2023

- Course of Psychology and Education (GPA: 3.77 / 4.00).
- Relevant coursework: cognitive and physiological psychology, human–computer interaction.

Kitakyushu National College of Technology¹

Fukuoka, Japan

Associate Degree in Engineering

Apr 2013 – Mar 2018

- Department of Mechanical Engineering (GPA: 3.40 / 4.00).
- Research area: heat transfer engineering, production engineering.
- 🏆 Academic Excellence Award (Mar 2018) – awarded to the top 10% of students, with a grade average above 90/100.

Research Experience

Laboratory of Ergonomics for All Ages and Abilities, Kyushu University

Fukuoka, Japan

Graduate Student Researcher

Oct 2023 – Sep 2025

- Built a 1-DOF elbow exoskeleton testbed integrating torque control, surface EMG acquisition, and visual feedback (Python, C++).
- Designed and conducted psychophysical experiments (N = 42) on sensorimotor adaptation to different assistance onset timings, and built the pipeline synchronizing EMG with joint kinematics for analysis.

Thermoacoustic Engineering Laboratory, Kitakyushu National College of Technology

Fukuoka, Japan

Undergraduate Student Researcher

Apr 2017 – Mar 2018

- 🏆 The 21st Stirling Techno-rally (Nov 2017) Gold Idea Award & Bronze Prize (SC100V Class²).
 - Experimentally determined the regenerator-to-pulse-tube length ratio maximizing heat transport via air vibration, and machined the competition model to the resulting flow path geometry.
- Developed an educational kit based on a modified Rijke tube to demonstrate energy conversion between heat and sound using everyday materials.

¹ Japan's national 5-year engineering college, highly selective at age 15 admission, combining upper secondary with undergraduate-level education (final 2 years equivalent to university junior/senior years).

² SC100V class: competitors seek to cool a prescribed aluminum block by 10 K using the least electrical energy.

Work Experience

SUBARU Corporation

Gunma, Japan

Project Manager

Apr 2022 – May 2023

- Led a cross-functional task force spanning five divisions to develop a Bill of Process (BOP) system, achieving a beta launch ahead of schedule.
- Defined system requirements and standardized workflows for manufacturing knowledge management.

Production Engineer, Assembly Shop

Apr 2018 – Mar 2022

- Developed 3D models of assembly processes (workers, packaging, tooling) to enable vehicle assembly training in VR.
- Designed and delivered a hands-on curriculum on 3D CAD modeling and kinematic analysis for over 20 junior engineers.

Publications

Journal Articles

Human Motor Responses to Different Assistance Onset Timings During Powered Elbow Flexion

Applied Ergonomics (Q1), Vol. 134, 104721 (2026). DOI: 10.1016/j.apergo.2025.104721

Daichi Kusumoto, Wen Liang Yeoh, Jeewon Choi, Ping Yeap Loh, Satoshi Muraki

Conference Proceedings

Effects of Start Time in Power-Assisted Elbow Flexion on Human-Motor Cooperation

The 25th Conference of the Society of Instrument and Control Engineers, System Integration Division, Morioka, Japan (Dec 2024)

Daichi Kusumoto, Teerapapa Luecha, Jeewon Choi, Wen Liang Yeoh, Ping Yeap Loh, Satoshi Muraki

Exploring the Initiation Timing of Assistance in Cooperation with Motion Assist Devices

The 65th Conference of the Japan Human Factors and Ergonomics Society, Chitose, Japan (Jun 2024)

Daichi Kusumoto, Teerapapa Luecha, Wen Liang Yeoh, Ping Yeap Loh, Satoshi Muraki

Professional Service and Community Involvement

The 66th Annual Conference of the Japan Human Factors and Ergonomics Society

Fukuoka, Japan

Student Volunteer

May 2025

Cocoful (Non-Profit Organization)

Fukuoka, Japan

Exercise Instructor (part-time)

Oct 2023 – Sep 2025

- Instructed community exercise programs on frailty prevention for older adults and motor skill development for children.

Runmode Gunma (Blind Marathon Association)

Gunma, Japan

Board Member and Volunteer

Sep 2020 – Mar 2022

- Coordinated guide-runner pairings and managed practice resumption protocols during the COVID-19 pandemic to maintain members' training continuity.

Reference

Prof. Jun Nishida

College Park, MD, USA

Assistant Professor, Department of Computer Science, University of Maryland

Ph.D. Advisor

- IRB 5144, Brendan Iribe Center for Computer Science and Engineering.
- 8125 Paint Branch Drive, College Park, MD 20742, USA.
- Email: jun@umd.edu | Web: <http://junnishida.net>
- Phone: (301) 405-2662 | Fax: (301) 405-6707