Yuto Watanabe

Born:	16 October 1999
Birthplace:	Toyota city, Japan
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Personal Profile

Yuto Watanabe received the bachelor's degree in mechanical engineering and master's degree in informatics both from Kyoto University, Kyoto, Japan, in 2022 and in 2024, respectively. He is currently at Kyoto University as a Ph.D. student funded by the JSPS Research Fellowship for Young Scientist (Tokubetsu Kenkyuin) DC1. His research interests include control and optimization for networked systems. He was awarded the Funai Overseas Scholarship.

Education

Apr. 2024 – Aug. 2024 **Kyoto University** *Kyoto, Japan*
Funded by the JSPS Research Fellowship for Young Scientists (DC1)

Apr. 2022 – Mar. 2024 **Kyoto University** *Kyoto, Japan*
Master of Informatics (GPA: 4.12/4.30)
Thesis: *Distributed optimization of clique-wise coupled problems via three-operator splitting*

Apr. 2018 – Mar. 2022 **Kyoto University** *Kyoto, Japan*
B.E. in Mechanical Engineering (GPA: 3.66/4.30)
Thesis: *Distributed dynamic matching of two groups of agents with different sensing ranges*

Experiences

Oct. 2022 – Present **Student Member** of Advanced Mathematical Science for Mobility Society.
The joint project of Kyoto University and Toyota Motor Corporation.

Sep. 2022 **Internship** at Mitsubishi Heavy Industries, Ltd.
Design and simulation of a controller for submarines.

Apr. 2022 – Jul. 2022 **Teaching Assistant** at Kyoto University, Kyoto Japan.
Teaching assistant of the Practice of Basic Informatics Class.

Mar. 2022 – Nov. 2022 **Office Assistant** at Kyoto University, Kyoto Japan.
Translation of a monograph on multi-agent control into Japanese.

Research Publications

Journal Articles

[1] **Y. Watanabe**, K. Sakurama, and H.-S. Ahn, "Gradient-based distributed controller design over directed networks," *IEEE Transactions on Control of Network Systems*, 2024 (to appear).

Peer Reviewed International Conference Proceedings

[1] **Y. Watanabe** and K. Sakurama, "Distributed optimization of clique-wise coupled problems," in *the 62nd IEEE Conference on Decision and Control (CDC)*, Singapore, 2023 (accepted).

[2] **Y. Watanabe** and K. Sakurama, "Accelerated distributed projected gradient descent for convex optimization with clique-wise coupled constraints," in *the 22nd IFAC World Congress*, Yokohama, Japan, 2023.

[3] **Y. Watanabe** and K. Sakurama, "Distributed dynamic matching of two groups of agents with different sensing ranges," in *the 61st IEEE Conference on Decision and Control (CDC)*, Cancun, Mexico, 2022, pp. 5916–5921. DOI: 10.1109/CDC51059.2022.9993395.

Papers in Preparation & Under Review

[1] **Y. Watanabe**, S. Fushimi, and K. Sakurama, "Characterization and convexification of LMI-based distributed controller design with a class of non-block-diagonal Lyapunov functions," submitted to *IEEE Transactions on Automatic Control* (under review).

[2] **Y. Watanabe** and K. Sakurama, "Distributed optimization of clique-wise coupled problems via three-operator splitting," submitted to *IEEE Transactions on Automatic Control* (under review).

Awards

2024 **SICE Outstanding Student Award**, the Society of Instrument and Control Engineers (SICE).
This award is given to the first-rank student recommended by each institution or department every year.

UC San Diego, ECE department fellowship.

2023 **Funai Overseas Scholarship**.
This scholarship will cover two years of graduate school tuition plus a stipend of 3,000USD a month for living expenses. (Only for the UK, it will cover three years.)

JSPS Research Fellowship for Young Scientist (Tokubetsu Kenkyuin) DC1.
A governmental three-year fellowship for Ph.D. students at Japanese institutions. The acceptance rate is around 14.3%.

IEEE CSS Student Travel & Workshop Support Programs of CDC 2023.

SCI Outstanding Student Presentation Award, SCI'23, Kyoto, Japan.

The 2023 ISCIE Young Investigators Award, The Institute of Systems, Control and Information Engineers, Japan.
This award is given to around five outstanding young researchers in the Japanese control community.

Skills

Languages	English: IELTS (Academic) overall score: 7.5 (Jan 2024).
	Japanese: Mother tongue.
Coding	MATLAB, Python, and LaTeX.

References

Prof. Kazunori Sakurama (Kyoto University) sakurama@i.kyoto-u.ac.jp

References (continued)

Prof. Toshiyuki Ohtsuka (Kyoto University) ohtsuka@i.kyoto-u.ac.jp
Prof. Kenta Hoshino (Kyoto University) hoshino@i.kyoto-u.ac.jp

Note

It is a great pleasure that I can start my Ph.D. research at UC San Diego in September 2024.