

Yusuke Yugeta

PHD STUDENT

The University of Tokyo

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Education

The University of Tokyo

PHD ENGINEERING

- Advisor: Prof. Yosuke Hasegawa

Tokyo, Japan

Apr. 2024 - present

The University of Tokyo

MENG MECHANICAL ENGINEERING

- Advisor: Prof. Yosuke Hasegawa
- Dean's award for excellent master thesis

Tokyo, Japan

Apr. 2022 - Mar. 2024

The University of Tokyo

BENG MECHANICAL ENGINEERING

- Advisor: Dr. Takuma Shiga

Tokyo, Japan

Apr. 2018 - Mar. 2022

Professional Experience

2024-

Present

PhD Fellowship "BOOST NAIS" by JST and UTokyo, The University of Tokyo

2023-

Present

Part-time research intern, Omron Sinic x, Tokyo

2019-2022

Part-time junior research associate, Retail AI, Inc., Tokyo

Publications

PUBLISHED

Yugeta, Y, Uji, K, Ito, T, Hasegawa, Y. 2023. "Prediction of optimal control input in a fully developed turbulent channel flow by machine learning", *Journal of Fluid Science and Technology Volume 18 Issue 4 (2023)*, Pages JFST0033,

IN REVIEW

IN PREP

Yugeta, Y, Hasegawa, Y. 2024. "Bayesian optimization of cost functional in suboptimal control for reducing skin friction drag in wall turbulence"

Yugeta, Y, Hasegawa, Y. 2024. "TBD"

Awards, Fellowships, & Grants

2024-	Boost NAIS Fellowship , JST and The University of Tokyo	Stipend: ¥280,000/month, Research Funding: ¥540,000/year
2024-	Spring GX Fellowship , The University of Tokyo	Stipend: ¥180,000/month, Research Funding: ¥350,000/year
2024	A Dean's Award , The University of Tokyo	
2024	Best presentation award , Turbulence Simulation and Flow Design Research Group, Institute of Industrial Science	

Presentations

* *presenting author*; + *mentored student*;

INTERNATIONAL CONFERENCES (ORAL)

Yugeta, Y.*, Hasegawa, Y., "AUTOMATIC EXPLORATION OF COST FUNCTION FOR SUBOPTIMAL CONTROL OF TURBULENT FLOW BY MACHINE LEARNING", *EDRFCM24, Turin, Italy*

Yugeta, Y.*, Hasegawa, Y., "DEVELOPMENT OF FEEDBACK CONTROL LAW FOR WALL TURBULENCE BY COMBINING OPTIMAL CONTROL THEORY AND BAYESIAN OPTIMIZATION", *TSFP13, Montreal, Canada*

Yugeta, Y.*, Uji, K., Itoh, T., Hasegawa, Y., "Machine learning of Optimal Control Input in a Fully Developed Turbulent Channel Flow", *THMT-23, Rome, Italy, Sep. 2023*

DOMESTIC CONFERENCES (ORAL, JAPANESE)

Endo, T.*+, Liu, Z., Liu, M., **Yugeta, Y.**, Kato, C., Hasegawa, Y., "Development of Wall Model for Large Eddy Simulation Using Generative Adversarial Networks", *38th CFD symposium, Tokyo, Japan, Dec. 2024*

Yugeta, Y.*, Hasegawa, Y., "Automatic Search for Cost Functions in Optimal Control of Wall Turbulence Using Machine Learning", *JSFM annual meeting 2024, Sendai, Japan, Sep. 2024* Awarded as the best presentation

Yugeta, Y.*, Hasegawa, Y., "Automatic Search for Cost Functions in Optimal Control of Wall Turbulence Using Machine Learning", *The 39th IIS-TSFD Symposium, Tokyo, Japan, Mar. 2024*

Yugeta, Y.*, Hasegawa, Y., "Development of wall turbulence feedback control law for wall friction drag reduction by combining optimal control theory and Bayesian optimization", *JSFM annual meeting 2023, Tokyo, Japan, Sep. 2023*

Yugeta, Y.*, Uji, K., Itoh, T., Hasegawa, Y., "Characteristics of optimal control inputs for wall turbulence control and their extraction by machine learning", *The 38th IIS-TSFD Symposium, Tokyo, Japan, Mar. 2023*