

# Curriculum Vitae – Shuhei Watanabe

November 29, 2022

## General Information

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**Github** <https://github.com/nabenabe0928>

**Homepage** <https://nabenabe0928.github.io>

## Education

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10.2020 – Present **Albert–Ludwigs–Universität Freiburg** - Freiburg, Germany.  
Master of Computer Science. Supervisor: Prof. Frank Hutter.  
Overall GPA: 1.1/5.0 (1.0 is the best grade).  
The expected graduation on 2023 Summer.

09.2015 – 03.2020 **The University of Tokyo** - Tokyo, Japan.  
Bachelor in Systems Innovation, Faculty of Engineering.  
I was absent from the university from 04.2018 to 08.2019.  
Overall GPA: 3.78/4.0 (4.0 is the best grade).  
Graduated with **the Best GPA** out of 37 students.

04.2014 – 08.2015 **The University of Tokyo** - Tokyo, Japan.  
Bachelor of College of Arts and Science, Natural Science 1.

## Employment

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2023 Summer – **Preferred networks inc.** - Tokyo, Japan.  
Research engineer.

12.2020 – Present **The Machine Learning Lab in Albert–Ludwigs–Universität Freiburg** - Freiburg, Germany.  
Research assistant.  
Developing AutoML system named Auto-Pytorch.  
Github URL: <https://github.com/automl/Auto-PyTorch>

- 09.2018 – 09.2020 **National Institute of Advanced Industrial Science and Technology (AIST)** - Tokyo, Japan.  
Technical Staff, full-time job.  
Studying AutoML, especially Hyperparameter Optimization.
- 04.2018 – 08.2018 **M3, inc.** - Tokyo, Japan.  
Market Researcher and Consultant, full-time job(internship).  
Consulting the methods to lay out the genome business.

## Awards / Honors

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- 10.2022 **Deutschlandstipendium** (€300/month) for 6 months.
- 07.2022 **1st Prize in AutoML2022: Multiobjective Hyperparameter Optimization for Transformers**
- 09.2020 **ITO Foundation for International Education Exchange**  
(\$2,000/month for 2 years, AR: 13/193=6.7%).
- 03.2020 **Hatakeyama Award from The Japan Society of Mechanical Engineers**  
This award is for the distinctive grades at the mechanical engineering related faculties at the University of Tokyo (AR: 5/340=1.5%).  
URL: <https://www.jsme.or.jp/archive/award/shou4-19.pdf>
- 05.2019 **PRMU 2018 Yearly Research Encouragement Award** for the paper *Speed up of Hyper-parameter Tuning with Nelder-Mead Method by Parallel Computing*, jointly with Yoshihiko Ozaki, Masaki Onishi. 3 papers were selected out of 170 papers. (AR: 3/170=1.8%).  
URL: [https://www.ieice.org/~prmu/jpn/award\\_list.html](https://www.ieice.org/~prmu/jpn/award_list.html)
- 10.2014 **1st Prize in the freshman team Hokei in the National Intercollegiate Taïdo Tournament.** Taïdo is one of the Japanese traditional martial arts.

## Publications

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I list acceptance rate for prizes or conferences where available as "AR: (papers accepted)/(papers submitted)=(percentage)". ○ refers to the presenter. ♣ refers to the equally contributed authors.

## Theses

1. ○ **S. Watanabe**. Bachelor thesis. A Study on the Spontaneously Emerged Cooperation in a Collective Game with AI Type Agents. The University of Tokyo, Tokyo, Japan, 2018.

## Referred Journal Publications

1. ○ Y. Ozaki, Y. Tanigaki, **S. Watanabe**, M. Nomura, M. Onishi. Multiobjective Tree-structured Parzen Estimator. Journal of Artificial Intelligence Research 2022 (JAIR2022).

## Referred Conference Publications

1. ○ S. Shigenaka, S. Takami, **S. Watanabe**, Y. Tanigaki, Y. Ozaki, M. Onishi. MAS-Bench: Parameter Optimization Benchmark for Multi-agent Crowd Simulation. International Conference on Autonomous Agents and MultiAgent Systems (AAMAS2021).
2. ○ ♣ M. Nomura, ♣ **S. Watanabe**, Y. Akimoto, Y. Ozaki, M. Onishi. Warm Starting CMA-ES for Hyperparameter Optimization. Association for the Advancement of Artificial Intelligence (AAAI2021). (AR: 1692/9034=19%).
3. ○ S. Takenaga, **S. Watanabe**, M. Nomura, Y. Ozaki, M. Onishi, H. Habe. Evaluating Initialization of Nelder–Mead Method for Hyperparameter Optimization in Deep Learning. International Conference on Pattern Recognition (ICPR2020). Oral presentation.
4. ○ Y. Ozaki, Y. Tanigaki, **S. Watanabe**, M. Onishi. Multiobjective Tree-structured Parzen Estimator for Computationally Expensive Optimization Problems. The Genetic and Evolutionary Computation Conference (GECCO2020).
5. ○ **S. Watanabe**, Y. Ozaki, Y. Bando, M. Onishi. Speeding up of the Nelder–Mead Method by Data-driven Speculative Execution. Asian Conference on Pattern Recognition (ACPR2019). Oral presentation. (AR: 128/273=46%, **Oral presentation: 36/273=13%**)

## Referred Workshop Publications

1. ○ **S. Watanabe**, N. Awad, M. Onishi, F. Hutter. Multi-objective Tree-structured Parzen Estimator Meets Meta-learning. Workshop on Meta-Learning at NIPS 2022 (MetaLearn2022).
2. ○ **S. Watanabe**, F. Hutter. c-TPE: Generalizing Tree-structured Parzen Estimator with Inequality Constraints for Continuous and Categorical Hyperparameter Optimization. Workshop on Gaussian Processes, Spatiotemporal Modeling, and Decision-making Systems at NIPS 2022 (GPSMDM2022).
3. ○ ♣ M Nomura, ♣ **S. Watanabe**, Y. Ozaki, M. Onishi. Warm Starting Method for CMA-ES. Workshop on Meta-Learning at NIPS 2019 (MetaLearn2019).

4. ○ Y. Ozaki, ○ **S. Watanabe**, M. Onishi. Accelerating the Nelder–Mead Method with Predictive Evaluation. Workshop on Automated Machine Learning at ICML 2019 (AutoML2019).

## Non-peer Reviewed Publications

1. ○ **S. Watanabe**, Y. Ozaki, M. Onishi. Speed up of Hyper-parameter Tuning with Nelder–Mead Method by Parallel Computing. Pattern Recognition and Media Understanding (PRMU2019). **PRMU 2018 Yearly Research Encouragement Award** (AR: 3/170=1.8%).
2. ○ **S. Watanabe**, M. Nomura, M. Onishi. The Characteristics Required in Hyper-parameter Optimization of Deep Learning Algorithms (JSAI2020).

## Certificates

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**TOEFL iBT** Total 100 (R: 29, L: 25, S: 22, W: 24).

**GRE** Q: 168 (93%), V: 152 (54%), W: 4.0 (57%).

**Atcoder**<sup>1</sup> Highest rating 1626 (Approx. Top 3.5%)

## Language Skills

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**English** CEFR C1.

**Japanese** Mother Tongue.

**German** CEFR B1.

**French** CEFR A2.

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<sup>1</sup><https://atcoder.jp/users/nabenabe0928>