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Kazuki Osawa

CONTACT INFORMATION

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EDUCATION

March 2021	Tokyo Institute of Technology (Japan), Ph.D. (expected) in Computer Science
March 2018	Tokyo Institute of Technology (Japan), M.S. in Computer Science
March 2016	Tokyo Institute of Technology (Japan), B.S. in Computer Science

EXPERIENCE

Apr. 2019 –
> Research Fellow of Japan Society for the Promotion of Science (JSPS) DC2

Jan. – Mar. 2020
> Student trainee at the Machine Learning Research Team, AIRC, AIST, Japan

Nov. 2019 – Feb. 2020
> Student trainee at the Approximate Bayesian Inference Team, RIKEN AIP, Japan

Nov. – Dec. 2019
> Research Intern at the DENSO IT Laboratory, Japan

Oct. 2018 – Mar. 2019
> Research Assistant at the I^2R, A*STAR, Singapore

PUBLICATIONS (REFEREED)

1. **Kazuki Osawa**, Yohei Tsuji, Yuichiro Ueno, Akira Naruse, Chuan-Sheng Foo, and Rio Yokota. "Scalable and Practical Natural Gradient for Large-Scale Deep Learning", *IEEE Transactions on Pattern Analysis and Machine Intelligence (**TPAMI**)*, 2020.

2. Yuichiro Ueno, **Kazuki Osawa**, Yohei Tsuji, Akira Naruse, and Rio Yokota. "Rich Information is Affordable: A Systematic Performance Analysis of Second-order Optimization Using K-FAC", *26th ACM SIGKDD Conference on Knowledge Discovery and Data Mining (**KDD**)*, 2020.

3. **Kazuki Osawa**, Siddharth Swaroop, Anirudh Jain, Runa Eschenhagen, Richard E. Turner, Rio Yokota, and Mohammad Emtiyaz Khan, "Practical Deep Learning with Bayesian Principles", *Conference on Neural Information Processing Systems (**NeurIPS**)*, 2019.

4. **Kazuki Osawa**, Yohei Tsuji, Yuichiro Ueno, Akira Naruse, Rio Yokota, and Satoshi Matsuoka. "Large-Scale Distributed Second-Order Optimization Using Kronecker-Factored Approximate Curvature for Deep Convolutional Neural Networks", *IEEE/CVF Conference on Computer Vision and Pattern Recognition (**CVPR**)*, 2019.

5. Yohei Tsuji, **Kazuki Osawa**, Yuichiro Ueno, Akira Naruse, Rio Yokota, and Satoshi Matsuoka.

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"Performance Optimizations and Analysis of Distributed Deep Learning with Approximated Second-Order Optimization Method", *The 48th International Conference on Parallel Processing (ICPP): Workshops*, 2019.

6. **Kazuki Osawa** and Rio Yokota. "Evaluating the Compression Efficiency of the Filters in Convolutional Neural Networks", *Artificial Neural Networks and Machine Learning – ICANN 2017*, pp 459-466, Springer 2017.

7. **Kazuki Osawa**, Akira Sekiya, Hiroki Naganuma, Rio Yokota. "Accelerating Matrix Multiplication in Deep Learning by Using Low-Rank Approximation", *2017 International Conference on High Performance Computing & Simulation (HPCS)*, pp 186-192, IEEE 2017.

FELLOWSHIPS, SCHOLARSHIPS & GRANT-IN-AIDS

JSPS KAKENHI Grant Number JP19J13477 (2019-2021, 1,700,000 JPY)
Research Fellowship for Young Scientists (DC2), JSPS (2019-2021, 4,800,000 JPY)
A*STAR Research Attachment Programme, Singapore (2018-2019, 17,500 SGD)
The Nakajima Foundation, Ph.D. Scholarship (declined) (2018-2023, tuition and living expenses)
Japan Student Services Organization, Master's Scholarship (2016-2018, 2,112,000 JPY)
International Information Science Foundation, Overseas Dispatch of Researchers (2017, 180,000 JPY)