Ryubu Hosoki

Ph.D. student

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Research Interests Distributed Deep Learning, Model Parallelism, Pipeline Parallelism, Tensor Parallelism, 3D Parallelism, Auto-partitioning of DNN Model

Education

2023.04 - **Ph.D. Mathematical and Computing Science, Tokyo Institute of Technology, Tokyo, Japan.**

2021.04 - 2023.03 **Master of Science, Tokyo Institute of Technology, Tokyo, Japan.**
GPA: 3.43/4.50

2017.04 - 2021.03 **Bachelor of Science, Tokyo Institute of Technology, Tokyo, Japan.**
GPA: 2.88/4.50

Employment History

2023.06 - 2023.08 The French Alternative Energies and Atomic Energy Commission (CEA), Saclay, Research Internship.

2023.04 - Tokyo Institute of Technology, Global Scientific Information and Computing Center, Research Assistant.

2023.04 - Institute of Physical and Chemical Research (RIKEN), Kobe, Junior Research Associate (declined).

2021.07 - 2023.03 National Institute of Advanced Industrial Science and Technology (AIST), Tokyo, Research Assistant.

Scholarships

2024.04 - Tokyo Tech Program for Development of Next-Generation Front-Runners with Comprehensive Knowledge and Humanity (Tokyo Tech SPRING), Covering living expenses.

2023.04 - 2024.03 Cross the border! Tokyo Tech Pioneering Doctoral Research Project, Covering living expenses.

2023.04 - Tokyo Tech Tsubame Scholarship for Doctoral Students, Covering living expenses (declined).

Teaching

2023 Computer Systems, Tokyo Institute of Technology, Math. and Comp. Science, TA.

Publications

Conference Proceedings

- **Ryubu Hosoki**, Toshio Endo, Takahiro Hirofuchi, Tsutmu Ikegami. "AshPipe: Asynchronous Hybrid Pipeline Parallel for DNN Training." Proceedings of the International Conference on High Performance Computing in Asia-Pacific Region (HPC Asia 2024), pp.117-126, Nagoya, January 2024. DOI: 10.1145/3635035.3635045

Domestic Workshop

Refereed Papers

- Taiki Osawa, Toshio Endo, **Ryubu Hosoki**. cross-disciplinary Workshop on Computing Systems, Infrastructures, and Programming(xSIG 2024), Tokushima, July 2024. (Written in Japanese)

Unrefereed Papers

- **Ryubu Hosoki**, Kento Sato, Toshio Endo, Julien Bigot, Edouard Audit. "An optimization pass for training speed-up and strategy search in 3D parallelism" IPSJ SIG Technical Report, 2024-HPC-194, No.7, Yokohama, May 2024.
- **Ryubu Hosoki**, Toshio Endo, Takahiro Hirofuchi, Tsutomu Ikegami. IPSJ SIG Technical Report, 2022-HPC-185, No.16, Shimonoseki, July 2022. (Written in Japanese)
- **Ryubu Hosoki**, Akihiro Nomura, Toshio Endo. IPSJ SIG Technical Report, 2021-HPC-180, No.9, online, July 2021. (Written in Japanese)

Skills

Languages	Japanese (native), English (intermediate)
Coding	LaTeX, C/C++, Python, Scala, Ruby, Linux