

Hiroki Azuma, MSc.

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Employment History

- 2022.4 - ... 📌 **Software Engineer (Internship)** at Function. Full-stack software development (Next.js, Python, Terraform, GCP) / Image processing with object detection models (Pytorch).
- 2024.2 📌 **Software Engineer (Internship)** at Sony. Machine learning engineer (Pytorch).
- 2023.1 - 2023.7 📌 **Software Engineer (Internship)** at Mutex. Development of retrieval systems using large language models (Python, LLM)
- 2022.11 - 2023.1 📌 **Software Engineer (Internship)** at Cellid. Improvement of the performance about 3D reconstruction with SfM (Python)
- 2021.8 📌 **Software Engineer (Internship)** at Cocone. Backend, API development (Java)

Education

- 2023 - 2026 (expected) 📌 **MSc, Information and Communication Engineering**
in The University of Tokyo, Japan. (Supervisor: Yusuke Matsui)
- 2023 - 2024 📌 **Exchange, Electrical Engineering and Computer Science**
in KTH Royal Institute of Technology, Sweden. (Supervisor: Atsuto Maki).
- 2019 - 2023 📌 **BE, Information and Communication Engineering**
in The University of Tokyo, Japan. (Supervisor: Yusuke Matsui, Kiyoharu Aizawa).
- 2016 - 2019 📌 **High School**
in Kaisei High School, Japan.

Projects

- 2023 - 2024 📌 **Development of Human Flow Digital Twins Generated from Camera Images.**
Accepted for "2023rd MITOU Advanced Program" from Information-technology Promotion Agency (IPA), Japan (Contract price: 14,400,000 yen). I am in charge of software engineer, product manager, and machine learning model advisor (I couldn't become a regular member due to living abroad).
- 2022 📌 **Development of a Real-time Visualization and Forecasting System for the Number of Containers and Delay Times at Ports.**
Passed the first round of "NEDO Supply Chain Data Challenge (2023)" from New Energy and Industrial Technology Development Organization (NEDO). But we did not win in the final competition. I was responsible for building machine learning models as an image processing engineer.

Research Publications

Conference Proceedings

- 1 **H. Azuma** and Y. Matsui, "Defense-prefix for preventing typographic attacks on clip," in *Proceedings of IEEE International Conference on Computer Vision Workshop (ICCVW)*, 2023.
- 2 **H. Azuma** and Y. Matsui, "Prefix learning for preventing typographic attacks on clip," in *Proceedings of Meeting on Image Recognition and Understanding (MIRU)*, 2023.

Preprint

- 1 **H. Azuma**, Y. Matsui, and A. Maki, "Zodi: Zero-shot domain adaptation with diffusion-based image transfer," *arXiv preprint: arXiv 2403.13652*, 2024.

Skills

Languages	📖 Japanese (Native), English (Business level).
Coding	📖 Python, C, C++, Java, Typescript, React, Terraform, SQL, \LaTeX , ...
Databases	📖 MySQL, SQLite, MongoDB.
Web Dev	📖 HTML, CSS, JavaScript, GCP, AWS.
Misc.	📖 Software development, Machine learning, Academic research.

Miscellaneous Experience

Awards and Achievements

- 2023 📖 **Best Student Award**, in MIRU2023.
- 📖 **Best Paper Award**, in ICCV2023 Workshop AROW.

Certification

- 2022 📖 **TOEFL IBT: 90.**