Hiroaki Yamagiwa

Ph.D. student, Graduate School of Informatics, Kyoto University, Kyoto, Japan
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Profiles: Portfolio — Google Scholar — GitHub — LinkedIn

RESEARCH INTERESTS

Natural Language Processing, Optimal Transport, Computer Vision, Software Engineering

EDUCATION

Kyoto University, Kyoto, Japan — Apr. 2022 — Present
Ph.D. student in Informatics

Kyoto University, Kyoto, Japan — Apr. 2020 — Mar. 2022
Master of Science in Informatics

Kyoto University, Kyoto, Japan — Apr. 2015 — Mar. 2020
Bachelor of Science in Mathematics

EXPERIENCE

Rist Inc. — Kyoto, Japan
Research Intern — Aug. 2023 — Sep. 2023

- We proposed a new zero-shot edge detection method [1] that was accepted at the WACV 2024 workshop.

Kyoto University — Kyoto, Japan
Research Assistant — Apr. 2023 — Present

RIKEN — Remote, Japan
Part-time Researcher — Aug. 2021 — Mar. 2022

DATAGRID Inc. — Kyoto, Japan
Part-time Engineer — Dec. 2020 — Jul. 2021

- Natural Language Processing Engineer

Rist Inc. — Kyoto, Japan
Part-time Engineer — Sep. 2019 — Present

- Machine Learning Engineer

PREPRINTS

1. Hiroaki Yamagiwa, Momose Oyama, and Hidetoshi Shimodaira. 2024. Revisiting Cosine Similarity via Normalized ICA-transformed Embeddings. arXiv.
2. Hiroaki Yamagiwa, Ryoma Hashimoto, Kiwamu Arakane, Ken Murakami, Shou Soeda, Momose Oyama, Mariko Okada, and Hidetoshi Shimodaira. 2024. Predicting Drug-Gene Relations via Analogy Tasks with Word Embeddings. arXiv.
3. Hiroaki Yamagiwa, Yusuke Takase, and Hidetoshi Shimodaira. 2024. Axis Tour: Word Tour Determines the Order of Axes in ICA-transformed Embeddings. arXiv.

PUBLICATIONS

(∗) denotes equal contribution.

1. Hiroaki Yamagiwa, Yusuke Takase, Hiroyuki Kambe, and Ryosuke Nakamoto. 2024. Zero-Shot Edge Detection with SCESAME: Spectral Clustering-based Ensemble for Segment Anything Model Estimation. In Proceedings of the IEEE/CVF Winter Conference on Applications of Computer Vision (WACV) Workshops, pages 541–551. IEEE.
2. Hiroaki Yamagiwa*, Momose Oyama*, and Hidetoshi Shimodaira. 2023. Discovering Universal Geometry in Embeddings with ICA. In Proceedings of the 2023 Conference on Empirical Methods in Natural Language Processing, pages 4647–4675. Association for Computational Linguistics.
3. Hiroaki Yamagiwa, Sho Yokoi, and Hidetoshi Shimodaira. 2023. Improving word mover's distance by leveraging self-attention matrix. In Findings of the Association for Computational Linguistics: EMNLP 2023, pages 11160—11183. Association for Computational Linguistics.

GRANTS

- Kyoto University Science and Technology Innovation Fellowship (Apr. 2022 — Mar. 2025).

SKILLS

- **Programming:** Python, C++, Linux, Docker
- **Language:** Japanese, English
- **Kaggle:** Competitions Expert

REFERENCES

Prof. Hidetoshi Shimodaira
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