

Haruki YONEKURA

PH.D CANDIDATE • THE UNIVERSITY OF OSAKA, MOBILE COMPUTING LAB

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Summary

Haruki Yonekura is a Ph.D. candidate in the Mobile Computing Laboratory at The University of Osaka and an AI BOOST Fellow. His research centers on building and evaluating ML/LLM systems in real-world settings, and he is motivated to pivot this skill set toward reducing catastrophic risks from advanced AI. He is particularly strong at operationalizing ambiguous research questions into measurable hypotheses and fast empirical iterations. He is comfortable operating under uncertainty and practices intellectual humility—treating hypotheses as provisional and revising them quickly as new evidence emerges. His publications and projects span LLM agents for smart environments, wireless sensing, geoinformation and privacy, and high-performance computing—experience that translates well to safety work in areas such as robustness/control, scalable oversight, and evaluations. Beyond leading projects as a primary author, he is a reliable collaborator who accelerates teams through clear communication and execution.

Education

Graduate School of Information Science and Technology, The University of Osaka

Osaka, Japan

PH.D. CANDIDATE, MOBILE COMPUTING LABORATORY 🔗 [HTTPS://MC.NET.IST.OSAKA-U.AC.JP/EN/](https://mc.net.ist.osaka-u.ac.jp/en/)

Apr. 2024 – Mar. 2027

- AI BOOST Scholarship funded by JST (Japan Science and Technology Agency).

Graduate School of Information Science and Technology, Osaka University

Osaka, Japan

M.Sc. IN INFORMATION AND COMPUTER SCIENCE

Apr. 2022 – Mar. 2024

- Thesis title: *Human Daily Activity Patterns Generation with LLM for Smart Home Simulator.*

School of Engineering Science, Osaka University

Osaka, Japan

ASSOCIATE DEGREE IN INFORMATION AND COMPUTER SCIENCE

Apr. 2019 – Mar. 2022

- *Skipped senior year for early graduation.*

Experience

Research Assistant

Osaka, Japan

ACT-X (JAPAN SCIENCE AND TECHNOLOGY AGENCY)

Jan 2026 – Present

- Research Title: “A Trustworthy and Robust Network-Distributed MoE-LLM System” .

Internship Student

Kyoto, Japan

CYBERAGENT AI LAB - ACTIVITY UNDERSTANDING TEAM

2025

- Zero-Data Self-Evolving Agentic Learning for Multimodal Generation.

Student Trainee

Hyogo, Japan

RIKEN, NATIONAL RESEARCH AND DEVELOPMENT AGENCY - CENTER FOR COMPUTATIONAL SCIENCE, – LARGE-SCALE DIGITAL

TWIN RESEARCH TEAM 🔗

2024 – Present

[HTTPS://WWW.RIKEN.JP/EN/RESEARCH/LABS/R-CCS/LARGESC_DIGITALTWIN/INDEX.HTML](https://www.riken.jp/en/research/labs/r-ccs/largesc_digitaltwin/index.html)

- Conducting large-scale digital twin research in HPC environments.

Research Assistant

Osaka, Japan

CREST (JAPAN SCIENCE AND TECHNOLOGY AGENCY) 🔗

Oct 2022 – Dec 2025

[HTTPS://WWW.JST.GO.JP/KISOKEEN/CREST/EN/PROJECT/1111114/1111114_2021.HTML](https://www.jst.go.jp/kisoken/crest/en/project/1111114/1111114_2021.html)

- Research Title: “A Platform for Digitalizing Knowledge of Regional Communities” .

Internship Student

Kanagawa, Japan

SONY SEMICONDUCTOR SOLUTIONS

2022

- Three-week internship designing and developing a comfortable virtual keyboard using synchronous multi-focal camera technology.

Teaching Fellow / Assistant

Osaka, Japan

THE UNIVERSITY OF OSAKA

2022 – 2025

- Instructed five undergraduate courses across multiple semesters.
- Course Titles: Basic Programming (C language, Python, & shell scripts), Logic Circuit, Learning of Logical Thinking by Contract Bridge.

Please also refer to [my Google Scholar](#) and [my Portfolio](#).

JOURNAL PAPER(S)

1. [H. Yonekura](#), H. Rizk, and H. Yamaguchi. "Round trip time meets transformers: high-fidelity human counting in cluttered environments." *Neural Computing and Applications* (2025), Q1 Journal: 1-27.

INTERNATIONAL CONFERENCE PROCEEDINGS

1. [H. Yonekura](#), R. Ozeki, T. Amano, H. Rizk, and H. Yamaguchi, "MobText-SISA: Efficient Machine Unlearning for Mobility Logs with Spatio-Temporal and Natural-Language Data," in *Proceedings of the 33rd ACM International Conference on Advances in Geographic Information Systems(ACM SIGSPATIAL)*, 2025, *CORE RANK A*.
2. R. Ozeki, [H. Yonekura](#), H. Rizk and H. Yamaguchi, "Cellular-based Indoor Localization with Adapted LLM and Label-aware Contrastive Learning," In *2025 IEEE International Conference on Smart Computing (SMARTCOMP)*.
3. R. Ozeki, [H. Yonekura](#), H. Rizk and H. Yamaguchi, "Privacy preserved taxi demand prediction system for distributed data," in *Proceedings of the 32nd ACM International Conference on Advances in Geographic Information Systems(ACM SIGSPATIAL)*, 2024, *CORE RANK A*.
4. [H. Yonekura](#), F. Tanaka, T. Mizumoto, and H. Yamaguchi, "Generating human daily activities with llm for smart home simulator agents," In *2024 International Conference on Intelligent Environments (IE)*, *CORE RANK B*, IEEE, *Best Short Paper Award*.
5. R. Ozeki, [H. Yonekura](#), H. Rizk, and H. Yamaguchi, "Decentralized landslide disaster prediction for imbalanced and distributed data," in *2024 IEEE International Conference on Pervasive Computing and Communications (PerCom)*, *CORE RANK A**, IEEE, 2024.
6. R. Ozeki, [H. Yonekura](#), A. Baimbetova, H. Rizk, and H. Yamaguchi, "One model fits all: Cross-region taxi-demand forecasting," in *Proceedings of the 31st ACM International Conference on Advances in Geographic Information Systems(ACM SIGSPATIAL)*, *CORE RANK A*, 2023.
7. R. Ozeki, [H. Yonekura](#), H. Rizk, and H. Yamaguchi, "Balancing privacy and utility of spatio-temporal data for taxi-demand prediction," in *2023 24th IEEE International Conference on Mobile Data Management (MDM)*, *CORE RANK B*, IEEE, 2023.

INTERNATIONAL WORKSHOP PROCEEDINGS

1. Y. Takeuchi, [H. Yonekura](#), K. Yamashita and H. Yamaguchi, "Evaluating Attribute Inference Risks in Urban Care Taxi Arrival Time Prediction Models Using Geospatial Data," *The 14th International Workshop on Urban Computing*, held in conjunction with the 31st ACM SIGKDD 2025, *Best Workshop Paper Candidate*.
2. [H. Yonekura](#), R. Ozeki, H. Rizk and H. Yamaguchi, "Restoring super-high resolution gps mobility data," in *Proceedings of the 2nd ACM SIGSPATIAL International Workshop on Geo-Privacy and Data Utility for Smart Societies, GeoPrivacy '24*.

INTERNATIONAL PEER-REVIEWED POSTERS, DEMOS, AND OTHERS

1. K. Nomura, R. Takaoka, [H. Yonekura](#), Y. Takahara, Y.Ueda, S. Morioka, R. Yamamoto, K. Hata, K. Namba, M. Nishimura: "Deep Learning-Based Automated 3D Classification of Temporomandibular Joint Disc Displacement," Poster session presented at the 104th General Session and Exhibition of the International Association for Dental Research (IADR/AADOCR/CADR), 2026, Poster, to appear.
2. [H. Yonekura](#), and H. Yamaguchi: "High-Reliability Network-Distributed MoE-LLM System," In *Proceedings of the 27th International Conference on Distributed Computing and Networking*, 2026, *Doctoral Symposium*.
3. A. Baimbetova, [H. Yonekura](#), H. Rizk, and H. Yamaguchi: "LLM-Augmented Driving Behavior Planning for Autonomous Vehicle," In *Proceedings of the 27th International Conference on Distributed Computing and Networking*, 2026, *Poster*.
4. [H. Yonekura](#), K. Tanigaki, and T. Kuroiwa: "What Does AI See through Animals' Eyes?: Zero-Shot Activity Recognition from Bio-loggers," In *Companion of the 2025 on ACM International Joint Conference on Pervasive and Ubiquitous Computing(UbiComp)*, *Student Challenge*.

5. H. Yonekura, H. Rizk, and H. Yamaguchi: "Device-Independent Wireless Sensing: Time-Series Analysis of Continuous Round Trip Time for Indoor Environment," In Proceedings of the 19th International Symposium on Spatial and Temporal Databases(SSTD), Thesis and Dissertation Track.
6. H. Yonekura, and Hirozumi Yamaguchi, "LLM as Personable Decision-Making Model for Smart Home Simulation," 2025 IEEE International Conference on Pervasive Computing and Communications Workshops (PerCom Workshops). IEEE, 2025.
7. H. Yonekura, Fukuharu Tanaka, and Hirozumi Yamaguchi, "Towards High-Performance and City-Scale Human Behavior Simulation with LLM-Powered Multi-Agent System," 1 page poster paper at International Conference on High Performance Computing in Asia-Pacific Region.
8. Fukuharu Tanaka, H. Yonekura, and Hirozumi Yamaguchi, "Policy Evaluation Platform for Parallel Multi-Agent Simulation on High Performance Computing Infrastructure", 1 page poster paper at International Conference on High Performance Computing in Asia-Pacific Region. 2025.
9. H. Yonekura, H. Rizk, and H. Yamaguchi, "Poster: Translating Vision into Words: Advancing Object Recognition with Visual-Language Models," in The 22nd ACM International Conference on Mobile Systems, Applications, and Services (MobiSys'24), ACM.
10. H. Yonekura, R. Ozeki, H. Rizk, and H. Yamaguchi, "STM - A Privacy-enhanced Solution for Spatio-temporal Trajectory Management," in 2023 24th IEEE International Conference on Mobile Data Management (MDM), Demo Paper, IEEE, 2023.
11. R. Ozeki, H. Yonekura, H. Rizk, and H. Yamaguchi, "Sharing without Caring: Privacy Protection of Users' Spatio-temporal Data without Compromise on Utility," in Proceedings of the 30th International Conference on Advances in Geographic Information Systems(ACM SIGSPATIAL), Student Research Competition(Undergraduate Student), 2022.

DOMESTIC CONFERENCES/WORKSHOPS（国内研究会）

1. 島千晴, 米倉晴紀, 田中福治, 天野辰哉, 山口弘純: 観光地における人流デジタルツインによるモビリティ導入施策の効果予測, 第100回高度交通システムとスマートコミュニティ (ITS), 研究報告高度交通システムとスマートコミュニティ (ITS) 2025 (11), 1-8
2. 島千晴, 米倉晴紀, 田中福治, 天野辰哉, 山口弘純: モビリティデータ活用に向けた3Dデジタルツインプラットフォームの試作, 第99回高度交通システムとスマートコミュニティ (ITS), 研究報告高度交通システムとスマートコミュニティ (ITS) WiP セッション, 2024-MBL-113(4),1-1(2024-10-29), 2188-8817
3. Haruki Yonekura, Hamada Rizk, Hirozumi Yamaguchi: "Mobile Sensor-Based Indoor Object Searching with Visual-Language Model" 第111回モバイルコンピューティングと新社会システム (MBL), 研究報告モバイルコンピューティングと新社会システム (MBL), 2024-MBL-111(42),1-7 (2024-05-08), 2188-8817
4. 小関廉, 米倉晴紀, Hamada Rizk, 山口弘純: モビリティデータのサンプリング潜在表現を用いた非識別化手法, 第97回高度交通システムとスマートコミュニティ (ITS), 研究報告高度交通システムとスマートコミュニティ (ITS), 2024-ITS-97(4),1-8 (2024-05-08), 2188-8965
5. 米倉晴紀, 田中福治, 水本旭洋, 山口弘純: スマートホームシミュレータにおける大規模言語モデルを用いた生活行動の自動生成に関する検討, 第109回モバイルコンピューティングと新社会システム (MBL), Vol.2023-MBL-109, pp1-8, (2023-11-08)
6. 米倉晴紀, 中澤嵩 (大阪大学数理・データ科学教育研究センター), 田崎創平 (北海道大学), 中井清彦 (中外製薬), 鈴木貴 (大阪大学数理・データ科学教育研究センター): Multi-agent model と phase-field モデルによる血管新生シミュレーション, 日本応用数理学会第19回研究部会連合発表会 (2023年)

Selected Programs and Training

2025	Program Graduate , IEEE Region 10 Young Professionals Volunteer Collective 2025 (48 participants out of 237 applicants; 31 program graduates)	IEEE Region 10 YP 2025
2025	Participation , International HPC Summer School (IHPCSS 2025)	IHPCSS 2025
2024	Participation , MobiSys 2024 ASSET Symposium (Asian Student Symposium on Emerging Technologies)	MobiSys2024

Paper, Poster, and Presentation Awards

2024	Best Short Paper Award , “Generating human daily activities with LLM for smart home simulator agents”	IE 2024
2023	Best Poster Award , “One Model Fits All: Cross-Region Taxi-Demand Forecasting”	SIGSPATIAL 2023
2022	Third Prize , Student Research Competition (Undergraduate) - “Sharing without Caring: Privacy Protection of Users’ Spatio-Temporal Data without Compromise on Utility”	SIGSPATIAL 2022
2024	WiP 奨励賞 , モビリティデータ活用に向けた 3D デジタルツインプラットフォームの試作, 第 99 回高度交通システムとスマートコミュニティ (ITS) , WiP セッション	ITS 研究会
2024	優秀論文賞 , モビリティデータのサンプリング潜在表現を用いた非識別化手法, 第 97 回高度交通システムとスマートコミュニティ	ITS 研究会
2023	優秀発表賞 , スマートホームシミュレータにおける大規模言語モデルを用いた生活行動の自動生成に関する検討, 第 109 回モバイルコンピューティングと新社会システム	MBL 研究会
2023	優秀講演賞 , Multi-agent model と phase-field モデルによる血管新生シミュレーション, 日本応用数理学会第 19 回研究部会連合発表会	JSIAM

Research Grant, Fellowships, and Travel Grant Award

2025	JST ACT-X , Strategic Basic Research Programs funded by JST (Japan Science and Technology Agency)
2025	Student Travel Grant Award , ACM UbiComp/ISWC 2025
2024	Scholarship , AI BOOST Scholarship funded by JST (Japan Science and Technology Agency)
2024	Repayment Exemption , 50% repayment exemption for Japan Student Services Organization (JASSO) Type 1 Student Loan due to my exceptional research and school achievement
2022	Student Travel Grant Award , ACM SIGSPATIAL 2022

Skills

DevOps/Tools	Docker, Singularity, Linux, Google Cloud Platform, LangChain
Programming Languages	Python(Machine Learning Framework, GIS Modeling, Large Language Model, ...), Java, C Language, SQL, R, VHDL
	English, Japanese

Professional Services

- Publicity and Social Media Co-Chairs, IEEE SMARTCOMP 2026 (the 12th edition of the premier conference on smart computing)
- Referee(Reviewer), IEEE Intelligent Vehicles Symposium (IV 2026)
- Student Volunteer, ACM SIGKDD(Knowledge Discovery and Data Mining) 2025
- TPC Member, ACM SIGSPATIAL(International Conference on Advances in Geographic Information Systems) 2025 Applications Track
- TPC Member, ICMU(The 15th International Conference on Mobile Computing and Ubiquitous Networking 2025)
- ACM SIGKDD(Knowledge Discovery and Data Mining) 2025, Student Volunteer

Extracurricular Activity

Japan Contract Bridge Youth National Team

Veldhoven, the Netherlands &
Ningbo, China

ELECTED MEMBER (U26)

2023

- Competed in the 18th World Youth Teams Championships in Veldhoven.
- Achieved Third Prize at the 24th Asia Pacific Bridge Federation Youth Championships in Ningbo.
- Developed a public web service enabling large-scale Monte-Carlo simulations of contract-bridge auctions directly in the browser.

Japan Contract Bridge Youngster National Team

ELECTED MEMBER (U21)

2020

- Represented Japan in the U21 category at international youth bridge competitions.