

Haruki YONEKURA, Ph.D. Student

 My LinkedIn Account


 <https://yone550.github.io/>

 My Google Scholar



Profile Summary

- **Dedicated Accelerated Learner & Competitive Resilience** Advanced through an accelerated degree program by skipping a year, demonstrating exceptional motivation, discipline, and the ability to excel under pressure. Holds a robust publication record relative to peers, showcasing research proficiency and ability to learn new subjects quickly.
- **Strategic Team Leader & Collaborative Partner** Represented Japan in international contract-bridge competitions, honing leadership, partnership, and communication skills in high-stakes, team-based environments.
- **Analytical Problem-Solver with Statistical Intuition** Developed logical reasoning and probabilistic analysis through high-level bridge play, translating complex statistical insights into data-driven decisions.

Education

- 04/2024 – 03/2027 ■ **Ph.D. student at Mobile Computing Laboratory** in Osaka University, Graduate School of Information Science and Technology  <https://mc.net.ist.osaka-u.ac.jp/en/>
AI BOOST Scholarship funded by JST (Japan Science and Technology Agency)
- 04/2022 – 03/2024 ■ **M.Sc. Information and Computer Science** in Osaka University, Graduate School of Information Science and Technology
Thesis title: *Human Daily Activity Patterns Generation with LLM for Smart Home Simulator*.
- 04/2019 – 03/2022 ■ **Associate Degree of Information and Computer Science** Osaka University, School of Engineering Science.
Skipped senior year for early graduation.

Research and Training Activities

- 2024 – ■ **Student Trainee:** RIKEN, a National Research and Development Agency in Japan, Center for Computational Science, Large-Scale Digital Twin Research Team
 https://www.riken.jp/en/research/labs/r-ccs/largesc_digitaltwin/index.html
- 2022 – ■ **Research Assistant:** CREST, funded by JST (Japan Science and Technology Agency),
Research Title: "A Platform for Digitalizing Knowledge of Regional Communities"
 https://www.jst.go.jp/kisoken/crest/en/project/1111114/1111114_2021.html
- 2022 – 2025 ■ **Teaching Fellow/Assistant at Osaka University:** In five courses in several semesters
Course Titles: Programming B(About C language), Programming C(About shell scripts and Python), Logic Circuit, Learning of Logical Thinking by Contract Bridge.

Research Interest

- **Digital Twin Architectures and LLM-Driven Multi-Agent Behavioral Simulation** Construction of large-scale digital twins and LLM-powered multi-agent systems for smart homes and city-scale human behavior modelling.
- **Privacy-Preserving Spatiotemporal Data Analytics and Predictive Modeling** Development of distributed taxi-demand forecasting and mobility data de-identification techniques that balance data utility with user privacy, demonstrated in large-scale geospatial applications.


Research Interest (continued)


- **Device-Free Wireless Sensing** Pioneering a system—the first RTT-based indoor human-counting framework—that leverages IEEE 802.11mc Fine Timing Measurement (FTM) and deep learning techniques to deliver privacy-preserving, high-fidelity people counting in cluttered environments.

Research Publications

International Conference Papers

- 1 F. Tanaka, **H. Yonekura**, and H. Yamaguchi, “Policy evaluation platform for parallel multi-agent simulation on high performance computing infrastructure,” One-page Poster Paper at International Conference on High Performance Computing in Asia-Pacific Region, 2025.
- 2 **H. Yonekura**, F. Tanaka, and H. Yamaguchi, “Towards high-performance and city-scale human behavior simulation with llm-powered multi-agent system,” One-page Poster Paper at International Conference on High Performance Computing in Asia-Pacific Region, 2025.
- 3 **H. Yonekura** and H. Yamaguchi, “Llm as personable decision-making model for smart home simulation,” in *2025 IEEE International Conference on Pervasive Computing and Communications Workshops (PerCom Workshops)*, 2025, to appear.
- 4 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*, 2024, pp. 143–150. 🔗 URL: <https://www.computer.org/csdl/proceedings-article/percom/2024/10494417/1W3x3T2ChuE>.
- 5 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*, CORE RANK A, ser. SIGSPATIAL ’24, Atlanta, GA, USA, 2024, pp. 123–134. 🔗 URL: <https://doi.org/10.1145/3678717.3691234>.
- 6 **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, Atlanta, GA, USA, 2024, pp. 19–24, ISBN: 9798400711473. 🔗 DOI: 10.1145/3681768.3698501.
- 7 **H. Yonekura**, H. Rizk, and H. Yamaguchi, “Poster: Translating vision into words: Advancing object recognition with visual-language models,” in *Proceedings of the 22nd Annual International Conference on Mobile Systems, Applications and Services*, MOBISYS ’24, CORE RANK A*, Minato-ku, Tokyo, Japan, 2024, pp. 740–741, ISBN: 9798400705816. 🔗 DOI: 10.1145/3643832.3661407.
- 8 **H. Yonekura**, F. Tanaka, T. Mizumoto, and H. Yamaguchi, “Generating human daily activities with llm for smart home simulator agents(best short paper award),” in *2024 International Conference on Intelligent Environments (IE)*, CORE RANK B, 2024, pp. 93–96. 🔗 DOI: 10.1109/IE61493.2024.10599909.
- 9 R. Ozeki, **H. Yonekura**, A. Baimbetova, H. Rizk, and H. Yamaguchi, “One model fits all: Cross-region taxi-demand forecasting(best poster award),” in *Proceedings of the 31st ACM International Conference on Advances in Geographic Information Systems(SIGSPATIAL2023)*, CORE RANK A, 2023, pp. 1–4. 🔗 URL: <https://dl.acm.org/doi/10.1145/3589132.3625651>.
- 10 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, 2023, pp. 215–220. 🔗 URL: <https://www.computer.org/csdl/proceedings-article/mdm/2023/410100a215/1POW2peVQju>.
- 11 **H. Yonekura**, R. Ozeki, H. Rizk, and H. Yamaguchi, “Demo: Stm: A privacy-enhanced solution for spatio-temporal trajectory management,” in *2023 24th IEEE International Conference on Mobile Data*




Management (MDM), CORE RANK B, 2023, pp. 168–171.  URL: <https://www.computer.org/csdl/proceedings-article/mdm/2023/410100a168/1POW1AobaAU>.

- 12 R. Ozeki, **H. Yonekura**, H. Rizk, and H. Yamaguchi, “Sharing without caring: Privacy protection of users’ spatio-temporal data without compromise on utility(third prize in student research competition),” in *Proceedings of the 30th International Conference on Advances in Geographic Information Systems(SIGSPATIAL2022)*, CORE RANK A, 2022, pp. 1–2.  URL: <https://dl.acm.org/doi/10.1145/3557915.3565534>.

Domestic Conference Papers(Japan)


- 1 島千晴, 米倉晴紀, 田中福治, 天野辰哉, and 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 (predicting the effects of mobility introduction in tourist areas using a digital twin capable of simulating human movement),” 情報処理学会研究報告 (Work-in-Progress), Information Processing Society of Japan(IPSJ) SIG on Intelligent Transport Systems(SIG-ITS), no. 11, Mar. 2025.
- 2 **H. Yonekura**, H. Rizk, and H. Yamaguchi, “Mobile sensor-based indoor object searching with visual-language model,” 情報処理学会研究報告, Information Processing Society of Japan(IPSJ) SIG on Mobile Computing and Ubiquitous Communications(SIG-MBL), no. DPS-199, May 2024.
- 3 小関廉, 米倉晴紀, H. Rizk, and 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 (de-identification method using sampling latent representation of mobility data),” 情報処理学会研究報告, Information Processing Society of Japan(IPSJ) SIG on Intelligent Transport Systems(SIG-ITS), vol. 2024, no. DPS-199, May 2024.
- 4 島千晴, 米倉晴紀, 田中福治, 天野辰哉, and 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 (prototype of a 3d digital twin platform for utilizing mobility data),” 情報処理学会研究報告 (Work-in-Progress), Information Processing Society of Japan(IPSJ) SIG on Intelligent Transport Systems(SIG-ITS), no. 4, Oct. 2024.
- 5 米倉晴紀, 中澤嵩, 田崎創平, 中井清彦, and 鈴木貴, “Multi-agent model と phase-field モデルによる血管新生シミュレーション (simulation of angiogenesis by multi-agent model and phase-field model),” 日本応用数理学会第 19 回研究部会連合発表会, The Japan Society for Industrial and Applied Mathematics, Mar. 2023.
- 6 米倉晴紀, 田中福治, 水本旭洋, and 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 (a study on automatic generation of lifestyle behaviors using large language models in a smart home simulator),” 情報処理学会研究報告, Information Processing Society of Japan(IPSJ) SIG on Mobile Computing and Ubiquitous Communications(SIG-MBL), no. 28, Nov. 2023.

Skills

Languages	 Strong reading, writing, and speaking competencies in English and Japanese.
Coding	 Python(Machine Learning Framework, GIS Modeling, ...), C Programming language, SQL
Tools	 Linux, Docker, Singularity, SUMO(Simulation of Urban MObility)

Miscellaneous Experience

Awards and Achievements

- 2024  **Best Short Paper Award**, Paper title: “Generating human daily activities with LLM for smart home simulator agents,”(IE2024).

Miscellaneous Experience (continued)

- **Outstanding Work-in-Progress Award**, Paper title: "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 (predicting the effects of mobility introduction in tourist areas using a digital twin capable of simulating human movement)," (domestic conference).
- **Best Paper Award**, Paper title: "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 (De-identification method using sampling latent representation of mobility data)," (domestic conference).
- 2023 ■ **Best Poster Award**, Paper title: "One Model Fits All: Cross-Region Taxi-Demand Forecasting," (SIGSPATIAL 2023).
- **Outstanding Presentation Award(out of 24 presenters)**, Paper title: "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 (A study on automatic generation of lifestyle behaviors using large language models in a smart home simulator)." (domestic conference).
- **Outstanding Presentation Award(Three Presenters out of 198 presenters))**, Paper Title: "Multi-agent model と phase-field モデルによる血管新生シミュレーション (Simulation of angiogenesis by multi-agent model and phase-field model)." (domestic conference).
- 2022 ■ **Student Research Competition(Undergraduate Student), Third Prize**, Paper title: "Sharing without Caring: Privacy Protection of Users' Spatio-Temporal Data without Compromise on Utility"(SIGSPATIAL 2022).
- **ACM SIGSPATIAL 2022 Student Travel Grants Award**

Academic and Professional Development

- 2025 ■ **International HPC Summer School participant:**
Going to participate in the International High Performance Computing Summer School(IHPCSS2025).
- 2024 ■ **Subreviewer/External Reviewer of JAC-ECC2024:**
Reviewed one paper submitted to the International Japan-Africa Conference on Electronics Communications and Computations in 2024.
- **MobiSys 2024 ASSET Symposium Participant:**
Participated in the Asian Student Symposium on Emerging Technologies (ASSET).

Leadership and Teamwork

- 2023 ■ **Elected as a member of the Japan Contract Bridge Youth National Team (U26)**
Participated in 18th World Youth Teams Championships in Veldhoven, the Netherlands, and Achieved Third Prize at the 24th Asia Pacific Bridge Federation Youth Championships in Ningbo, China.
I have built a public web service that lets any player run large-scale Monte-Carlo simulations of contract-bridge auctions directly from a browser¹.
- 2020 ■ **Elected as a member of the Japan Contract Bridge Youngster National Team (U21)**

Certification

- 2021 ■ **Fundamental Information Technology Engineer Examination.**
Awarded by IPA: Information-technology Promotion Agency, Japan.

¹Contract Bridge Hand Analyzer: <http://os3-376-21134.vs.sakura.ne.jp:8080/>