Solution Engineer & Evangelist at Microsoft | Adjunct Researcher at National University of Singapore

KOHEI YAMAMOTO

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Executive Summary

- Solution Engineer with a robust background in application innovation, experienced in leading PoC for globally recognised VIP clients. My specialisation is in cloud-native developments, working together with account and product teams since joining Microsoft as a new grad in 2021. From 2023 onward, expanded my role to embrace Evangelism for AI application.
- Concurrently, Researcher at intersection between human-centricity and spatiotemporality, established a publication record with 10+ research papers at Microsoft, National University of Singapore, IBM Research, and Yahoo Japan Research. My competencies lie in development of human-centric frameworks, leveraging modelling techniques and algorithm integration.

Special Post: Global spotlight by Microsoft on Kohei's Parallel career on LinkedIn (EN | JP)

Key Skills

Technical Interests:
Cloud Architecture (Azure)
Application Innovation
AI/ML Application
Python

Research Interests:
Human-Centric Framework
Interaction
Human Mobility
Spatiotemporal Modelling
Applied ML/AI

Natural Languages:
Japanese (Native)
English (Fluent: TOEIC 935/990)

Licences:
Car Licence (Stickshift, Japan)

Technical Certificates:
Azure Expert: Solutions Architect (AZ305, AZ104)
Azure Associate: Administrator (AZ104), Developer (AZ204), Data Engineer (DP203)
Azure Fundamentals: (AZ900, AI900, DP900, SC900)

Work Experience & Research Initiatives

MICROSOFT

Evangelist *(Azure App Innovation, Japan)* Nov 2023 – **Present**

- Concurrently, tasked with dedicating up to 20% of working hours to technical evangelism activities on AI.

App Innovation Technical Specialist *(Azure App Innovation, Japan)* Apr 2021 – **Present**

- Achieved 172% (FY23) Azure app cloud growth for VIP clients assigned exceptionally to a new grad as a solution engineer, by engaging in application innovation and leading PoC in cloud-native developments.
- Published research on a cloud-native analytical framework for modelling human mobility at IEEE, India, 2023, and on juxtaposition of individual and group mobility from WiFi in Journal of Location-Based Services, 2024.
- Received an award at Microsoft Global Hackathon 2022, managing 22 members from 6 countries, as well as 2023, teaming up with a leadership team of Microsoft AI at US HQ.

NATIONAL UNIVERSITY OF SINGAPORE (NUS)

Adjunct Researcher *(Dept of Architecture, Singapore)* Apr 2021 – **Present**
Research Assistant *(Dept of Architecture, Singapore)* Feb 2021 – Mar 2021

- Concurrently, serving as an Adjunct Researcher at NUS while working at Microsoft.
- Joined an international (NUS and Tsinghua University in China) research group (Investigators; Rudi Stouffs and Filip Biljecki) as a new grad hire, focusing on extracting semantics from human mobility and modelling human-centric interactions with building structures.
- Published research on a cloud-native analytical framework for modelling human mobility at IEEE, India, 2023.

IBM RESEARCH

Student Fellow *(Accessibility Research Group, Japan)* May 2018 – Jul 2018

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- Engaged in an accessibility research group (Investigator; Hironobu Takagi) to improve localisation accuracy for visually impaired individuals by integrating human-centric modelling and computer vision techniques.
- Published research in Proceedings of Information Processing Society of Japan (IPSJ), 2018.
- Received Yamashita SIG Annual Research Award from IPSJ, 2020, as well as Honourable Mention Award, 2018.

YAHOO JAPAN RESEARCH

Student Fellow *(Data Science Unit, Japan)* Mar 2017 – Nov 2018

- Engaged in collaborative graduation research (Investigators; Kota Tsubouchi and Nobuhiko Nishio) focused on counteracting aging deterioration of localisation models and developed a training dataset selection algorithm using transfer learning and clustering WiFi data.
- Published 3+ research papers at esteemed conferences such as UbiComp, US, 2017 and nominated for Best Paper at IEEE, Italy, 2019.

Education

NATIONAL UNIVERSITY OF SINGAPORE

Master of Science in Applied GIS *(Dept of Geography, Singapore)* Aug 2019 – Aug 2020

- Grade: Achieved a grade of 4.85/5, placing at the top tier of cohort (official standing to cohort is not provided).
- Thesis: Juxtaposed Analysis of Individual and Group Movements from WiFi Signatures (Marked 5.0/5.0). Research Advisors: Chen-Chieh Feng and Guo Zhou. Published in Journal of Location-Based Services, 2024.

RITSUMEIKAN UNIVERSITY

Bachelor of Engineering in Computer Science *(Dept of Computer Science, Japan)* Apr 2014 – Mar 2018

- Grade: Achieved a grade of 4.63/5, placing at the top-placed graduate in the department.
- Thesis: Anti-Aging Calibration Methodology with User Log-Oriented Anomaly Detection for Wi-Fi Fingerprinting Localisation (Marked 5.0/5.0). Research Advisor: Nishio Nobuhiko. Published at IEEE, Italy, 2019.

Awards & Honours

- Winning Award (2nd in Japan) at Microsoft Global Hackathon - the world's largest hackathon, 2023.
- Winning Award (3rd in Japan) at Microsoft Global Hackathon - the world's largest hackathon, 2022.
- Yamashita (Founder) SIG Annual Research Award, IPSJ, 2020.
- Best Paper Nomination, IEEE IPIN, 2019.
- Repayment Exemption from JASSO Student Loans for Excellent Achievements, 3,100 USD, 2019.
- Honourable Mention Award, IPSJ SIG AAC (Assistive and Accessible Computing), 2018.
- Future Generation Person Award, 1,000 USD, 2018.
- Dean's Award, 100 USD, 2018.
- Promising and Prospective Person Award, 4,500 USD, 2017.
- Saionji (Founder) Memorial Award (Best Student Award), 6,000 USD, 2017.
- Saionji (Founder) Memorial Award (Best Student Award), 7,000 USD, 2016.
- Saionji (Founder) Memorial Award (Best Student Award), 7,000 USD, 2015.

Publications

- (In peer review) Yamamoto, K., Lim, J., Biljecki, F. and Stouffs, R. Which, What, and How Long to Model: A Cloud-Native Spatiotemporal Framework for Indoor Human Mobility in Built Environment.
- (In press) Yamamoto, K., Zhou, G., and Feng, C. 2024. Juxtaposing Individual and Group Mobility from Sparse WiFi Signatures with Cloud-Assisted Computing: A Case Study for Multidisciplinary University Campus, Journal of Location-Based Services.
- Yamamoto, K., Lim, J., Biljecki, F. and Stouffs, R., 2023. Analytical Framework in Cloud-Native Environments for Auto-Modelling Sparse Human Mobility Considering Memory of Past Contexts. In: Proceedings of 13th IEEE International Conference on Cloud Computing, Data Science and Engineering, India, pp. 87-91.
- Yamamoto, K., 2020. Juxtaposed Analysis of Individual and Group Movements from WiFi Signatures. M.Sc. Thesis,

Department of Geography, National University of Singapore. Research Advisors: Feng, C and Zhou, G.

- Tran, P., Zhao, M., Yamamoto, K., Minet, L., Nguyen, T. and Balasubramanian, R., 2020. Cyclists' personal exposure to traffic-related air pollution and its influence on bikeability. Transportation Research Part D: Transport and Environment, 88, pp. 102563.
- Tsubouchi, K., Yamamoto, K. and Nishio, N., 2019. No-Sweat Detective: No Effort Anomaly Detection for Wi-Fi-Based Localisation. In: Proceedings of IEEE International Conference on Indoor Positioning and Indoor Navigation, Italy, pp. 1-8.
- Yamamoto, K., Kan, F., Murao, K., Mochizuki, M. and Nishio, N., 2019. Manual Grading Task Support System with Interactive Correction Mechanism. The Transactions of Human Interface Society, 21(1), pp.73-84.
- Yamamoto, K., Murata, M. and Sato, D., 2018. Localisation Method Considering Characteristic Movements of Visually Impaired Persons (in Japanese). In: Proceedings of IPSJ SIG AAC Conference on Assistive and Accessible Computing, Japan, pp. 1-7.
- Yamamoto, K., 2018. Anti-Aging Calibration Methodology with User Log-Oriented Anomaly Detection for Wi-Fi Fingerprinting Localisation. B.Eng Thesis, Department of Computer Science, Ritsumeikan University. Research Advisor: Nishio, N.
- Yamamoto, K., Kan, F., Murao, K., Mochizuki, M. and Nishio, N., 2018. GERMIC: Application of Gesture Recognition Model with Interactive Correction to Manual Grading Tasks. In: Proceedings of EAI International Conference on Mobile Computing, Applications and Services, Japan, 40.
- Yamamoto, K., Tsubouchi, K. and Nishio, N., 2017. Anomaly Detection Method Specialized for Aging of Wi-Fi Localisation Model (in Japanese). In: Proceedings of Kobe University Ubiquitous and Wearable Workshop, Japan.
- Kawanaka, K., Yamamoto, K., Tsubouchi, K., Murao, K., Mochizuki, M. and Nishio, N., 2017. Detecting Aged Deterioration of a Radio Base Station Map for Wi-Fi Positioning. In: Proceedings of ACM International Joint Conference on Pervasive and Ubiquitous Computing and Proceedings of the ACM International Symposium on Wearable Computers (Ubicomp'17), USA. pp. 547-556.
- Kan, F., Yamamoto, K., Murao, K., Mochizuki, M. and Nishio, N., 2017. Implementation of Scoring System by Handwriting Recognition and Interactive Correction Mechanism (in Japanese). In: Proceedings of IPSJ Conference on Multimedia, Distributed, Cooperative and Mobile Symposium, Japan, 1754-1760.

Representative Presentations

- Yamamoto, K & Ueno, H. 2024. Designing Next-Generation App Architecture Integrating with Generative AI, Microsoft AI Tour, Tokyo and Osaka.
- Yamamoto, K. & Okazaki, T. 2023. Use of Generative AI at Japan Association of Corporate Executives (経済同友会).
- Yamamoto, K., 2023. Analytical Framework in Cloud-Native Environments for Auto-Modelling Sparse Human Mobility Considering Memory of Past Contexts. At 2023 IEEE International Conference on Cloud Computing, Data Science and Engineering, 19-20 January 2023 New Delhi, India.
- Yamamoto, K., 2019. No-Sweat Detective: No Effort Anomaly Detection for Wi-Fi-Based Localisation. At 2019 IEEE International Conference on Indoor Positioning and Indoor Navigation, 30 September-3 October 2019 Pisa, Italy.
- Yamamoto, K., 2018. Localisation Method Considering Characteristic Movements of Visually Impaired Persons (in Japanese). At 2018 IPSJ SIG AAC Conference on Assistive and Accessible Computing, 24-25 August 2018 Tokyo, Japan.
- Yamamoto, K., 2018. GERMIC: Application of Gesture Recognition Model with Interactive Correction to Manual Grading Tasks. At 2018 EAI International Conference on Mobile Computing, Applications and Services, 28 February-2 March 2018 Osaka, Japan.
- Yamamoto, K., 2018. Anti-Aging Calibration Methodology with User Log-Oriented Anomaly Detection for Wi-Fi Fingerprinting Localisation. At B.Eng Thesis Defence, 8 February Shiga, Japan.
- Yamamoto, K., 2017. Anomaly Detection Method Specialized for Aging of Wi-Fi Localisation Model (in Japanese). At 2017 Kobe University Ubiquitous and Wearable Workshop, 22-23 December 2017 Hyogo, Japan.
- Yamamoto, K., 2017. Cross-Interactivity in EdTech. At 2018 Japan-China Conference of University Presidents as a representative, 18-22 October 2017 Dalian, China.
- Yamamoto, K., 2017. Detecting Aged Deterioration of a Radio Base Station Map for Wi-Fi Positioning. At 2017 ACM International Joint Conference on Pervasive and Ubiquitous Computing and Proceedings of 2017 ACM International Symposium on Wearable Computers (Ubicomp'17), 11-15 September 2017 Hawaii, USA.

- Yamamoto, K., 2017. Implementation of Scoring System by Handwriting Recognition and Interactive Correction Mechanism (in Japanese). At 2017 IPSJ Conference on Multimedia, Distributed, Cooperative and Mobile Symposium, 28-30 June 2017 Hokkaido, Japan.
- Yamamoto, K., 2016. Acceleration of Mutual Interaction Using IT Media. As a delegation to USA from the Ministry of Foreign Affairs of Japan, 8-15 March San Jose, USA.

Other Notable Engagements

- Delegated to China as a Representative – As a representative of the university, delegated to Japan-China Universities' President's Conference to discuss "IT, tertiary education and AI", Oct 2017.
- Delegated to the U.S. from MOFA – Delegated to the U.S. for the national purpose to accelerate mutual (Japan-U.S.) interaction utilising IT media; promoted by Ministry of Foreign Affairs of Japan, Feb 2016.