

# Kohei YAMAMOTO

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## **Skills and Abilities**

**Interests:** Spatiotemporal Data Analytics, Locational Big Data, Computational Social Science, Machine Learning, Localisation, Human Computer Interaction, Accessibility

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

**Computer Languages:** Python (5 years), Scala, Java, ObjC, C, Swift, Assembly

## **Education and Research Experience**

### **M.Sc., Applied Geo. Information Systems, National University of Singapore\*<sup>4</sup>, 2019-20**

**Concentrations:** Spatiotemporal Data Analytics, Computational Social Science, Locational Big Data

**GPA:** 4.00/4.00 – Preliminary score

### **Student Researcher, IBM Research\*<sup>3</sup>, 2018**

**Concentrations:** Localisation, Human Computer Interaction, Accessibility

**Contributions:** As a member of accessibility team, tackled research on characteristic movements of visually impaired persons, which affects localisation accuracy, and improved it by fusing several localisation techniques e.g. physical, radio wave and image (AR) sensors

**Award:** Honourable Mention Award, IPSJ, Japan, 2018

**Award:** Yamashita SIG Annual Research Award, IPSJ, Japan, 2020

### **Collaborative Researcher, Yahoo Japan Research\*<sup>2</sup>, 2017-18**

**Concentrations:** Localisation, Locational Big Data, Machine Learning, Spatiotemporal Data Analytics

**Contributions:** Tackled collaborative research on counteracting aged deterioration of localisation model and cogitated dataset selection algorithm upon transfer learning and clustering

**Award:** Nomination to Best Paper, IEEE IPIN, 2019

### **B.Eng, Computer Science, Ritsumeikan University\*<sup>1</sup>, 2014-18**

**Concentrations:** Human Computer Interaction, Machine Learning, CPU Architecture

**GPA:** 4.63/5.00 – Top-placed graduate

**Note:** After graduation, I took one year off while formally enrolling in master program (withdrawn)

## **Publications (Peer-Reviewed Articles)**

\*<sup>4</sup> Yamamoto, K., Zhou, G. and Feng, C. (2020) Research Related to Extraction of Human Dynamics and Patterns Analysing WiFi Signatures. (writing in progress)

\*<sup>4</sup> Tran, P., Zhao, M., Yamamoto, K., Minet, L., Nguyen, T. and Balasubramanian, R. (2020) Improvement of sustainable cycling index with the integrated evaluation of cyclists' personal exposure to airborne particles. Transportation Research Part D: Transport and Environment. (Under peer-review)

Author Contributions: Implementation of deep convolutional model of semantic segmentation.

\*<sup>2</sup> Tsubouchi, K., Yamamoto, K. and Nishio, N. (2019) No-Sweat Detective: No Effort Anomaly Detection for Wi-Fi-Based Localisation. IEEE International Conference on Indoor Positioning and Indoor Navigation IPIN, Pisa, Italy, pp. 1-8.

Award: Nomination to Best Paper.

Author Contributions: Field data collection (one year), Cogitation and Implementation of the methodology, Evaluation and Formal Analysis. (Yet, taken over to the first author to prioritise my family/relative matter)

\*1 **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, Volume 21, Issue 1, pp. 73-84, Released February 25, 2019.

\*3 **Yamamoto, K.**, Murata, M. and Sato, D. (2018) Localisation method considering characteristic movements of visually impaired persons (in Japanese). Research Society IPSJ SIG AAC (Assistive & Accessible Computing). Issue 10, pp. 1-7, Japan.

Award: IPSJ Yamashita SIG Annual Research Award, 2020 (Peer/Committee-Reviewed)

Award: Honourable Mention Award, 2018

\*1 **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. Mobile Computing, Applications, and Services. Lecture Notes of the Institute for Computer Sciences, Social Informatics and Telecommunications Engineering, vol 240. Springer, Cham. Osaka, Japan.

\*2 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 the 2017 ACM International Joint Conference on Pervasive and Ubiquitous Computing and Proceedings of the 2017 ACM International Symposium on Wearable Computers (Ubicomp'17). pp. 547-556, Hawaii, U.S.

Author Contributions: Code screening, Research refining and Deeper analysis.

\*1 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). Multimedia, Distributed, Cooperative, and Mobile Symposium 2017. pp. 1754-1760, Japan.

Author Contributions: Cogitation and Implementation of the methodology, User Evaluation and Formal Analysis. (Yet, Conceptualisation is owed to the first author)

## **Publications (Thesis and Others)**

\*4 **Yamamoto, K.** (2020) Juxtaposed Analysis on Individual and Group Trips Leveraging WiFi Signatures. M.Sc. Thesis. (Advisor: Feng, C.) (writing in progress)

\*1 **Yamamoto, K.** (2018) Anti-Aging Calibration Methodology with User Log-Oriented Anomaly Detection for Wi-Fi Fingerprinting Localisation. B.Eng. Thesis. (Advisor: Nishio, N.)

Award: Best Presenter Award

\*2 **Yamamoto, K.**, Tsubouchi, K. and Nishio, N. (2017) Anomaly detection method specialized for aging of Wi-Fi localisation model (in Japanese). UWW. pp. 43, Japan

## **Presentations**

\*2 **Yamamoto, K.** (2019) "No-Sweat Detective: No Effort Anomaly Detection for Wi-Fi-Based Localisation", at the conference of IEEE Indoor Positioning and Indoor Navigation, Pisa, Italy

\*3 **Yamamoto, K.** (2018) "Localisation method considering characteristic movements of visually impaired persons (in Japanese)", at the conference of Research Society IPSJ SIG AAC (Assistive & Accessible Computing), Tokyo, Japan

Award: Honourable Mention Award

\*1 **Yamamoto, K.** (2018) "GERMIC: Application of Gesture Recognition Model with Interactive Correction to Manual Grading Tasks", at the conference of Mobile Computing, Applications, and Services, Osaka, Japan

**\*1 Yamamoto, K.** (2018) “Anti-Aging Calibration Methodology with User Log-Oriented Anomaly Detection for Wi-Fi Fingerprinting Localisation”, B.Eng Thesis Defence, Shiga, Japan

Award: Best Presenter Award

**\*2 Yamamoto, K.** (2017) “Anomaly detection method specialized for aging of Wi-Fi localisation model (in Japanese)”, at Ubiquitous Wearable Workshop, Hyogo, Japan

**\*1 Yamamoto, K.** (2017) “Cross-interactivity in EdTech”, as a representative at the conference of university presidents between China and Japan, Dalian, China.

**\*2 Yamamoto, K.** (2017) “Detecting Aged Deterioration of a Radio Base Station Map for Wi-Fi Positioning”, at the 2017 ACM International Joint Conference on Pervasive and Ubiquitous Computing and International Symposium on Wearable Computers (Ubicomp'17), Hawaii, U.S.

**\*1 Yamamoto, K.** (2017) “Implementation of scoring system by handwriting recognition and interactive correction mechanism (in Japanese)”, at the conference of Multimedia, Distributed, Cooperative, and Mobile Symposium, Hokkaido, Japan

**\*1 Yamamoto, K.** (2016) Acceleration of mutual interaction using IT Media, as delegation to the U.S. from Ministry of Foreign Affairs of Japan, San Jose, California, U.S.

## **Awards and Financial Budgets**

IPSJ Yamashita SIG Research Award, one of the most prestigious annual research awards of IPSJ, 2020

Nomination to Best Paper, 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

Award for student creating the future, **1,000 USD**, 2018

Dean's Award for outstanding student, **100 USD**, 2018

Award for promising and prospective student, **4,500 USD**, 2017

Saionji (Founder) Memorial Award, Top award for the most outstanding student, **6,000 USD**, 2017

Saionji (Founder) Memorial Award, Top award for the most outstanding student, **7,000 USD**, 2016

Award for the author of a well-analysed experiment report on MIPS · TCP/IP, **500 USD**, 2016

Saionji (Founder) Memorial Award, Top award for the most outstanding student, **7,000 USD**, 2015

(1 USD = 100 JPY)

## **Professional Experience**

**Product Manager Intern, Mercari (Merpai), 2019**

Worked on data analysis, UI-UX research and project managements

**Ad Management Intern, GumGum, 2019**

Worked on ad management on Web and implemented internal Web tools

**Technical Account Manager Intern, Microsoft, 2018**

Tackled information silo and implemented mock-up to study the effectiveness on a global scale, alongside of visiting customers

### **Software Engineer Intern, 2017**

Built load balance on a virtual multi-network topology for 4K broadcasting

### **Notable Projects**

**Microsoft Open-Source Software Project**, Microsoft personally offered me 3,000 USD worth of Azure cloud platform to develop location-based mobile system with real-time notifications. This project was awarded 2,500 USD from the university, 2018-19

**General Video Editor on Behalf of Microsoft Japan**: During the internship, I was in charge of CG/audio/video editing to create a video recapping Microsoft culture, 2018

**eLearning Content Creation/Translation for Whisky Maker Glenlivet**: Received orders personally from a company in Switzerland, 2018

**Delegation 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", 2017

**Delegation to 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, 2016