Seita Kayukawa

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Ph. D. Student (Apr. 2020 ~)

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Education

Apr. 2020 - Present — **Ph. D. Student**
Graduate School of Advanced Science and Engineering, Waseda University
Advisor: Shigeo Morishima

Apr. 2018 - Mar. 2020 — **Master of Engineering**
Graduate School of Advanced Science and Engineering, Waseda University
Advisor: Shigeo Morishima

Apr. 2014 - Mar. 2018 — **Bachelor of Science**
Department of Applied Physics, Waseda University
Advisor: Shigeo Morishima

Work Experience

Apr. 2021 - Present — **Researcher**
Accessibility Lab., Miraikan - National Museum of Emerging Science and Innovation

Apr. 2020 - Present — **Research Fellow (DC1)**
JSPS Research Fellowship for Young Scientists

Feb. 2019 - Mar. 2020 — **Research Intern**
IBM Research - Tokyo

May 2018 - Sept. 2018 — **Research Intern**
Cognitive Assistance Lab., Robotics Institute, Carnegie Mellon University

Research Interest

Human-Computer Interaction; Accessibility; Video Browsing

Publications

Journal Papers and Conference Full Papers

[1] Yutaro Yamanaka, **Seita Kayukawa**, Hironobu Takagi, Yuichi Nagaoka, Yoshimune Hiratsuka, and Satoshi Kurihara. 2021. **One-Shot Wayfinding Method for Blind People via OCR and Arrow Analysis with a 360-degree Smartphone Camera**. In *Proceedings of the 18th EAI International Conference on Mobile and Ubiquitous Systems: Computing, Networking and Services (**MobiQuitous '21**)*.
DOI: https://doi.org/XXXXXX/XXXXXXXX

[2] Masaki Kuribayashi*, **Seita Kayukawa***, Hironobu Takagi, Chieko Asakawa, and Shigeo Morishima (* - equal contribution). 2021. **LineChaser: A Smartphone-Based Navigation System for Blind People to Stand in Line**. In *Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems (**CHI '21**)*.
DOI: https://doi.org/10.1145/3411764.3445451

[3] **Seita Kayukawa**, Tatsuya Ishihara, Hironobu Takagi, Shigeo Morishima, and Chieko Asakawa. 2020. **Guiding Blind Pedestrians in Public Spaces by Understanding Walking Behavior of Nearby Pedestrians**. In *Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (**IMWUT**)*. 4, 3, Article 85 (September 2020), 22 pages.
DOI: https://doi.org/10.1145/3411825

[4] **Seita Kayukawa**, Keita Higuchi, João Guerreiro, Shigeo Morishima, Yoichi Sato, Kris Kitani, and Chieko Asakawa. 2019. **BBeep: A Sonic Collision Avoidance System for Blind Travellers and Nearby Pedestrians**. In *Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems (**CHI '19**)*.
DOI: https://doi.org/10.1145/3290605.3300282

Conference Short Papers, Demonstrations, and Posters

[5] Masaki Kuribayashi, **Seita Kayukawa**, Jayakorn Vongkulbhisal, Daisuke Sato, Chieko Asakawa, Hironobu Takagi, and Shigeo Morishima. 2021. **Designing a Smartphone-Based Assistance System for Blind People to Recognize Intersections and Obstacles in Indoor Corridors**. In *Proceedings of the 18th EAI International Conference on Mobile and Ubiquitous Systems: Computing, Networking and Services (**MobiQuitous '21 Poster**)*.
DOI: https://doi.org/XXXXXXX/XXXXXXXX

[6] **Seita Kayukawa**, Hironobu Takagi, João Guerreiro, Shigeo Morishima, and Chieko Asakawa. 2020. **Smartphone-Based Assistance for Blind People to Stand in Lines**. In *Extended Abstracts of the 2020 CHI Conference on Human Factors in Computing Systems (**CHI '20 LBW**)*.
DOI: https://doi.org/10.1145/3334480.3382954

[7] **Seita Kayukawa**, Tatsuya Ishihara, Hironobu Takagi, Shigeo Morishima, and Chieko Asakawa. 2020. **BlindPilot: A Robotic Local Navigation System that Leads Blind People to a Landmark Object**. In *Extended Abstracts of the 2020 CHI Conference on Human Factors in Computing Systems (**CHI '20 LBW**)*.
DOI: https://doi.org/10.1145/3170427.3189085

[8] Ryo Shimamura, **Seita Kayukawa**, Takayuki Nakatsuka, Shoki Miyagawa, and Shigeo Morishima. 2019. **A Study on the Sense of Burden and Body Ownership on Virtual Slope**. In *Proceedings of the IEEE Conference on Virtual Reality and 3D User Interfaces (**IEEE VR '19 Poster**)*.
DOI: https://doi.org/10.1109/VR.2019.8797960

[9] **Seita Kayukawa**, Keita Higuchi, Ryo Yonetani, Masanori Nakamura, Yoichi Sato, and Shigeo Morishima. 2018. **Dynamic Object Scanning: Object-Based Elastic Timeline for Quickly Browsing First-Person Videos**. In *Extended Abstracts of the 2018 CHI Conference on Human Factors in Computing Systems (**CHI '18 LBW and DEMO**)*.
DOI: https://doi.org/10.1145/3170427.3189085

Awards

Nov. 2021 **Outstanding Student Paper Award**
MobiQuitous 2021 (co authored paper, 1st author: Yutaro Yamanaka)

Dec. 2020 **Best Paper Award**
JSSST WISS 2020 (a Domestic Conference in Japan)

Mar. 2020 **IPSJ Yamashita SIG Research Award**
Information Processing Society of Japan (IPSJ)

Mar. 2019 **Azusa Ono Memorial Award**
Waseda University

Mar. 2019 **Best Paper Award**
IPSJ Interaction 2019 (a Domestic Conference in Japan)

Scholarships

May 2020 - Mar. 2021 **Early Bird Program (Support for Young Researchers), Waseda Research Institute for Science and Engineering**

Apr. 2018 - Mar. 2020 **JASSO Scholarship for Outstanding Master Students**

May 2018 - Sept. 2018 **Visiting Support from Super Global University**

May 2018 - Aug. 2018 **JASSO Scholarship for Short-term Study Abroad**

Skills

Programming Languages: C++, Python, Swift, HTML, CSS

Libraries / Platforms: OpenCV, Qt5, ROS, Arduino, CMake

OS: macOS, Ubuntu

Others: Adobe CC (Illustrator, Premiere Pro, Photoshop, InDesign)
User Studies, Statistical Analysis
Machine Learning, Coursera MOOC by Andrew NG, Nov. 2018