

# Seita Kayukawa

Last Updated: Nov. 13, 2021

## Ph. D. Student (Apr. 2020 ~)

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## Education

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<b>Apr. 2020 - Present</b>	<b>Ph. D. Student</b> Graduate School of Advanced Science and Engineering, Waseda University Advisor: Shigeo Morishima
<b>Apr. 2018 - Mar. 2020</b>	<b>Master of Engineering</b> Graduate School of Advanced Science and Engineering, Waseda University Advisor: Shigeo Morishima
<b>Apr. 2014 - Mar. 2018</b>	<b>Bachelor of Science</b> Department of Applied Physics, Waseda University Advisor: Shigeo Morishima

## Work Experience

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<b>Apr. 2021 - Present</b>	<b>Researcher</b> Accessibility Lab., Miraikan - National Museum of Emerging Science and Innovation
<b>Apr. 2020 - Present</b>	<b>Research Fellow (DC1)</b> JSPS Research Fellowship for Young Scientists
<b>Feb. 2019 - Mar. 2020</b>	<b>Research Intern</b> IBM Research - Tokyo
<b>May 2018 - Sept. 2018</b>	<b>Research Intern</b> Cognitive Assistance Lab., Robotics Institute, Carnegie Mellon University

## Research Interest

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Human-Computer Interaction; Accessibility; Video Browsing

# Publications

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## 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/XXXXXXX>
- [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/XXXXXX/XXXXXXX>
- [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

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- Dec. 2020 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

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- 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

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**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