

Masaki Kuribayashi

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Doctor's Student at Waseda University. Interested in the field of Human-Computer Interaction, particularly in assistive system for supporting navigation of people with visual impairment (Accessibility). Experience in conducting user-centered & inclusive design with people with visual impairment, development of navigation systems using smartphones and robots, designing/ conducting user studies, and conducting statistical analysis. Expected to complete the Doctor's program in Mar. 2026.

Education

Apr. 2023 - Current	Doctor of Engineering Graduate School of Advanced Science and Engineering, Waseda University Advisor: Shigeo Morishima
Apr. 2021 - Mar. 2023	Master of Engineering Graduate School of Advanced Science and Engineering, Waseda University Advisor: Shigeo Morishima
Apr. 2017 - Mar. 2021	Bachelor of Science Department of Physics, Waseda University Advisor: Shigeo Morishima

Work Experience

Apr. 2023 - Current	Research Fellow DC1 JSPS Research Fellowship for Young Scientists Advisor: Shigeo Morishima <ul style="list-style-type: none">- Mentored five Bachelors and Masters students.- Co-authored two CHI 2024 papers with the mentored students as a co-first author.- Conducted in-the-wild user studies at public shopping mall and analyzed using statistical tests.- Developed visual language navigation model using emerging large language models.
Apr. 2021 - Dec. 2023	Research Internship IBM Research Advisor: Chieko Asakawa, Hironobu Takagi <ul style="list-style-type: none">- Launched a research project by indentifying a challenge people with visual impairment face.- Developed an iOS navigation application for people with visual impairment.- Developed a ML model for detecting intersections on iOS by gathering an unique dataset.- Conducted a user study and analyzed using statistical tests.
Jun. 2022 - Sep. 2022	Research Internship Cognitive Assistance Lab, Robotics Institute, Carnegie Mellon University Advisor: Chieko Asakawa, Daisuke Sato <ul style="list-style-type: none">- Identified technical challenges of navigation robots and launched and led a research project.- Designed a system through an user-centered design process with people with visual impairment.- Implemented a practical sign recognition algorithm using ML models.- Conducted an user study in a large-scale environment and analyzed using statistical tests.

Awards

- Mar. 2021 **Azusa Ono Memorial Award**
Waseda University
The most prestigious award by Waseda University, which 0.014% of students receive.
- Dec. 2020 **Best Paper Award**
JSPS WISS 2020 (a domestic conference in Japan)
An award that the top 3% of paper receives.

Scholarship

- Apr. 2023 - Mar. 2026 **Research Fellowship for Young Scientists DC1**, Japan Society for the Promotion of Science, 3.8M JPY/year
- Mar. 2023 **Isao Okawa Scholarship for Information Technology Science**, Waseda University. 200K JPY

Skills

- Programming Language: **Swift, Python**
- Frameworks / Platforms: **Xcode, ARKit, OpenCV, Docker**
- Others: **XCode, Adobe CC (Illustrator, Premiere Pro, and InDesign),
User Studies, Statistical Analysis**

Publications

Journal Papers and Conference Full Papers

- [1] **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 2021). DOI: <https://doi.org/10.1145/3411764.3445451>
- [2] **Masaki Kuribayashi**, Seita Kayukawa, Jayakorn Vongkulbhisal, Daisuke Sato, Chieko Asakawa, Hironobu Takagi, Shigeo Morishima. 2022. **Corridor-Walker: Mobile Indoor Walking Assistance for Blind People to Avoid Obstacles and Recognize Intersections**. In Proceedings of the 24th International Conference on Human-Computer Interaction with Mobile Devices and Services. (Mobile HCI 2022). DOI: <https://doi.org/10.1145/3546714>
- [3] **Masaki Kuribayashi**, Tatsuya Ishihara, Daisuke Sato, Jayakorn Vongkulbhisal, Karnik Ram, Seita Kayukawa, Hironobu Takagi, Shigeo Morishima, and Chieko Asakawa. 2023. **PathFinder: Designing a Map-less Navigation System for Blind People in Unfamiliar Buildings**. In Proceedings of the 2023 CHI Conference on Human Factors in Computing Systems. (CHI 2023). DOI: <https://doi.org/10.1145/3544548.3580687>
- [4] Yusuke Miura, Erwin Wu, **Masaki Kuribayashi**, Hideki Koike, Shigeo Morishima. 2023. **Exploration of Sonification Feedback for People with Visual Impairment to Use Ski Simulator**. Augmented Humans 2023. (AHs 2023). DOI: <https://doi.org/10.1145/3582700.3582702>

Short Papers and Posters

- [5] **Masaki Kuribayashi**, Seita Kayukawa, Jayakorn Vongkulbhisal, Daisuke Sato, Chieko Asakawa, Hironobu Takagi, Shigeo Morishima. 2021. **Designing a Smartphone-Based Assistance System for Blind People to Recognize Intersections and Obstacles in Indoor Corridors**. Mobile and Ubiquitous Systems. (Mobiquitous 2021).

- [6] Yusuke Miura, **Masaki Kuribayashi**, Erwin Wu, Hideki Koike, Shigeo Morishima. 2022. **A Study on Sonification Method of Simulator-Based Ski Training for People with Visual Impairment**. SIGGRAPH Asia 2022 Posters. (SA '22 Posters).

- [7] **Masaki Kuribayashi**, Hironobu Takagi, Chieko Asakawa, Shigeo Morishima. 2023. Textual and Directional Sign Recognition Algorithm for People with Visual Impairment by Linking Texts and Arrows. The IEEE/CVF Conference on Computer Vision and Pattern Recognition 2023 Workshop (CVPR 2023 Workshop).

Academic Service

CHI 2023 LBW External Reviewer

Mobile HCI 2023 Full Paper External Reviewer

CHI 2024 Full Paper External Reviewer (Ongoing)

Invited Talks

May. 2023 **Masaki Kuribayashi**, "Introduction to Accessibility Research and My Experiences of Entrance Exams",
Hong Kong Japanese School