

Soomin Shin

PHD CANDIDATE · ELECTRICAL AND COMPUTER ENGINEERING

✉ soomin.shin@uwaterloo.ca | 🏠 soominshin.com | 🎓 Google Scholar

Education

University of Waterloo

PHD ELECTRICAL AND COMPUTER ENGINEERING

Waterloo, ON, Canada
2023 – Present

- Advisor: Prof. Kerstin Dautenhahn, Social and Intelligent Robotics Research Laboratory
- Research: “In-the-Wild, long-term deployment of Socially Assistive Robots”

Korea University

MS BRAIN AND COGNITIVE ENGINEERING

Seoul, South Korea
2023

- Advisor: Prof. Christian Wallraven, Cognitive Systems Lab
- Thesis: “Effects of context in emotion recognition: a comparison of human perception experiments and Deep Neural Networks”

Seoul Women's University

BE MULTIMEDIA ENGINEERING

Seoul, South Korea
2019

Seoul Women's University

BA CHILD STUDIES

Seoul, South Korea
2019

Publications

JOURNAL ARTICLES

Shin, S., Chandra, S., Rajan, A., Shah, S., & Dautenhahn, K. (2026). From co-designed personas to in-the-wild deployment: a therapist-operable social robot platform for pediatric speech-language therapy. *Advanced Robotics*, 1-16..

CONFERENCE PAPERS

Shin, S., Chandra, S., Rajan, A., Shah, S., & Dautenhahn, K. (2025). How co-design and personas can inform game implementation for robot-assisted speech therapy in clinical settings. In *Proceedings of the 34th IEEE International Conference on Robot and Human Interactive Communication (RO-MAN '25)*, pp. 988–995.

Azizi, N., Chandra, S., Rajan, A., Krishna, K., Shah, S., **Shin, S.**, & Dautenhahn, K. (2024). Development of robot-assisted speech-language therapy: Co-design with speech-language pathologists. In *Social Robotics: 16th International Conference on Social Robotics (ICSR '24)*, pp. 366–380.

Kwon, Y., Shin, S., Yang, K., Park, S., **Shin, S.**, Jeon, H., Kim, K., Yun, G., Park, S., Byun, J., Kang, S. H., Song, K. H., Kim, D., Kim, D. H., Seo, K., Kwak, S. S., & Lim, Y. (2023). Heterogeneous robot-assisted services in isolation wards: A system development and usability study. In *Proceedings of the 2023 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS '23)*, pp. 8069–8076.

Shin, S. & Kwak, S. S. (2023). Do hierarchies in a robot team impact the service evaluation by users? In *Proceedings of the 2023 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS '23)*, pp. 3983–3990.

Shin, S., Kang, D., & Kwak, S. S. (2023). Is a robot trustworthy enough to delegate your control? In *Proceedings of the 32nd IEEE International Conference on Robot and Human Interactive Communication (RO-MAN '23)*, pp. 2415–2420.

WORKSHOP PAPERS AND EXTENDED ABSTRACTS

Shin, S. (2026). From co-design to deployment: Toward sustainable and scalable socially assistive robots for speech-language therapy. In *Companion of the 2026 ACM/IEEE International Conference on Human-Robot Interaction (HRI '26)*. *HRI Pioneers*; Acceptance rate: 23%.

Shin, S., Kim, D., & Wallraven, C. (2022). Contextual modulation of affect: Comparing humans and deep neural networks. In *Companion Publication of the 2022 International Conference on Multimodal Interaction (ICMI '22)*.

Awards & Scholarships

2026 – 2027

Physical AI Graduate Scholarship, Waterloo.AI

2026

HRI '26 Pioneers, ACM/IEEE International Conference on Human-Robot Interaction (Acceptance rate: 23%)

2023 – Present	Graduate Research Studentship, University of Waterloo
September 2023	International Doctoral Student Award, University of Waterloo
September 2023	Provost’s Doctoral Entrance Award for Women, University of Waterloo

Research Experience

Graduate Researcher SOCIAL AND INTELLIGENT ROBOTICS RESEARCH LAB, UNIVERSITY OF WATERLOO	<i>Waterloo, ON, Canada</i> 2023 – Present
• Led research on socially assistive robots for pediatric speech-language therapy. • Conducted a 6-month real-world deployment study with 9 children and a speech-language therapist. • Designed therapist-facing interfaces that enable independent robot operation by non-technical clinicians. • Developed full-stack robot systems for real-world deployment. • Developed AI-powered authoring robot systems for non-technical clinicians. • Conducted 3 years of co-design studies with speech-language therapists.	
Research Intern KOREA INSTITUTE OF SCIENCE AND TECHNOLOGY	<i>Seoul, South Korea</i> 2023
• Conducted user studies evaluating heterogeneous multi-robot service systems for isolation wards. • Investigated the effects of robot hierarchy on user trust and service evaluation. • Studied autonomy and user-control tradeoffs in robot interaction design.	
Graduate Researcher COGNITIVE SYSTEMS LAB, KOREA UNIVERSITY	<i>Seoul, South Korea</i> 2021 – 2023
• Investigated contextual emotion recognition in humans and deep neural networks. • Designed human-model comparison experiments using in-the-wild emotion datasets. • Evaluated neural-network performance against human-perception baselines.	

Mentoring & Teaching Experience

2024 – Present	Mentored undergraduate research assistants on literature review, experimental design, and robot system implementation	University of Waterloo
2026 Spring	Daniel Kim , Undergraduate Research Assistant	
2025 Fall	Ashley Du , Undergraduate Research Assistant	
2025 Winter	Harleen Khangura , Undergraduate Research Assistant	
2025 Winter	Simrit Mangat , Undergraduate Research Assistant	
2024 Fall	Kavya Arun , Undergraduate Research Assistant	
2024 Fall	Agam Soni , Undergraduate Research Assistant	
2026 Winter	ECE 459, Programming for Performance, Teaching Assistant	University of Waterloo
2025 Fall	ECE 150, Fundamentals of Programming, Teaching Assistant	University of Waterloo
2025 Spring	ECE 457B, Fundamentals of Computational Intelligence, Teaching Assistant	University of Waterloo
2025 Winter	ECE 459, Programming for Performance, Teaching Assistant	University of Waterloo
2024 Fall	BME 121, Digital Computation, Teaching Assistant	University of Waterloo
2024 Winter	ECE 406, Algorithm Design and Analysis, Teaching Assistant	University of Waterloo

Service and Outreach

2026	HRI 2026, Student Volunteer	ACM/IEEE HRI
2023-present	Peer Review, International Journal of Social Robotics (2024-present), RO-MAN (2023)	