Gwangbin Kim

Education

Ph.D. Student in Robotics — Mar 2021 - Current — Gwangju, Korea
Gwangju Institute of Science and Technology (GIST)
Advisor: Prof. SeungJun Kim

M.S. in Robotics — Mar 2019 - Feb 2021 — Gwangju, Korea
Gwangju Institute of Science and Technology (GIST)
Thesis: Wayfinding Design Toolkit with Real-time Prediction of Visual Saliency as an Iterative Feedback [J.3]
Advisor: Prof. SeungJun Kim

B.S. in Mechanical Engineering — Mar 2015 - Feb 2019 — Gwangju, Korea
Gwangju Institute of Science and Technology (GIST)

Experience

Human-Centered Intelligent Systems Laboratory, GIST — Mar 2019 - Current | Dec 2018 - Feb 2019 — Gwangju, Korea
Research Assistant (Ph.D./M.S.) | Research Intern (Mentor: Prof. SeungJun Kim)

Advanced Technology Team, SOSLAB, Co., Ltd. — Jun 2017 - Dec 2018 — Gwangju, Korea
Research Engineer (Mentor: Dr. Junhwan Jang, CTO)
- Optical Triangulation LiDAR with embedded visual recognition [Pat.1, Pat.2, Pat5]

Peer-reviewed Journals and Conferences

[C.4]
WatchCap: Improving Scanning Efficiency in People with Low Vision through Compensatory Head Movement Stimulation
Taewoo Jo, Dohyeon Yeo, Gwangbin Kim, Seokhyun Hwang, and SeungJun Kim
ACM Ubicomp 2024: Proceedings of the ACM on Immersive, Mobile, Wearable, and Ubiquitous Technologies

[J.5]
MultiSenseBadminton: Wearable Sensor-Based Biomechanical Dataset for Evaluation of Badminton Performance
Minwoo Seong, Gwangbin Kim, Dohyeon Yeo, Yumin Kang, Heesan Yang, Joseph DelPreto, Wojciech Matusik, Daniela Rus, and SeungJun Kim
Scientific Data 2024: Scientific Data 11(1), 343 (SCI(E), JCR 2022 Impact Factor: 9.8)

[J.4]
How Do Background and Remote User Representations Affect Social Telepresence in Remote Collaboration?: A Study with Portal Display, a Head Pose-Responsive Video Teleconferencing System
Seongjun Kang, Gwangbin Kim, Kyung-Taek Lee, and SeungJun Kim
Electronics 2023: Electronics 12(20), 4339 (SCI(E), JCR 2022 Impact Factor: 2.9)

[C.3]
Giant Finger: A Novel Visuo-somatosensory Approach to Simulating Lower-body Movements in Virtual Reality
Seongjun Kang, Gwangbin Kim, and SeungJun Kim
IEEE ISMAR 2023: The 22nd IEEE International Symposium on Mixed and Augmented Reality

[C.2]
When and What to Explain? On-road Evaluation of Explanations in Highly Automated Vehicles
Gwangbin Kim, Dohyeon Yeo, Taewoo Jo, Daniela Rus, and SeungJun Kim
ACM Ubicomp 2023: Proceedings of the ACM on Immersive, Mobile, Wearable, and Ubiquitous Technologies

[J.3]
Simulating Urban Element Design with Pedestrian Attention: Visual Saliency as Aid for More Visible Wayfinding Design
Gwangbin Kim, Dohyeon Yeo, Jieun Lee, and SeungJun Kim
Land 2023: Land 12(2), 394 *(SSCI, JCR 2021 Impact Factor: 3.905)*

[J.2]
Logogram VR: Treadmill-Coupled VR with Word Reflective Content for Embodied Logogram Learning
Gwangbin Kim, Eunsol An, and SeungJun Kim
Appl. Sci. 2023: Applied Sciences 13(3), 1627 *(SCI(E), JCR 2021 Impact Factor: 2.838)*

[J.1]
Take-Over Requests after Waking in Autonomous Vehicles
Won Kim, Eunki Jeon, Gwangbin Kim, Dohyeon Yeo, and SeungJun Kim
Appl. Sci. 2022: Applied Sciences 12(3), 1438 *(SCI(E), JCR 2020 Impact Factor: 2.679)*

[C.1]
Toward Immersive Self-Driving Simulations: Reports from a User Study across Six Platforms
Dohyeon Yeo, Gwangbin Kim, and SeungJun Kim
ACM CHI 2020: Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems

Extended Abstracts: Posters, Demos, and Workshop Papers

[P.2]
Curving the Virtual Route: Applying Redirected Steering Gains for Active Locomotion in In-car VR
Bocheon Gim, Seongjun Kang, Gwangbin Kim, Dohyeon Yeo, Seokhyun Hwang, and SeungJun Kim
ACM CHI 2024 Late-breaking Work

[W.3]
Counterfactual Explanation-Based Badminton Motion Guidance Generation Using Wearable Sensors
Minwoo Seong, Gwangbin Kim, Yumin Kang, Junhyuk Jang, Joseph DelPreto, and SeungJun Kim
ICRA 2024 Workshop on Wearables

	Dual-sided Peltier Elements for Rapid Thermal Feedback in Wearables	
[W.2]	SeongJun Kang, Gwangbin Kim, Seokhyun Hwang, Jeongju Park, Ahmed Elsharkawy, and SeungJun Kim	
	ICRA 2024 Workshop on Wearables	

[P.2]
Physiological Indices for Driver Situation Awareness in VR
Gwangbin Kim, Jieun Lee, Dohyeon Yeo, Eunsol An, and SeungJun Kim
ACM Ubicomp 2023 Poster

[P.1]
Giant Finger: Visuo-proprioceptive congruent virtual legs for flying actions in virtual reality
Seongjun Kang, Gwangbin Kim, Kyung-Taek Lee, and SeungJun Kim
IEEE VR 2023 Poster

[W.1]
MAXIM: Mixed-reality Automotive driving Ximulation
Dohyeon Yeo, Gwangbin Kim, and SeungJun Kim
IEEE ISMAR 2019 workshop on Augmenting Cities and Architectures with Immersive Technologies

Patents

[Pat.5]
Multi-channel lidar sensor module
Jiseong Jeong, Junhwan Jang, Dongkyu Kim, Sungui Hwang, Bumsik Won, and Gwangbin Kim
US18150548: US patent App. filed 2023-01-05

[Pat.4]
Sign visibility test system
SeungJun Kim, Gwangbin Kim, Eunsol An, Dohyeon Yeo, and Jieun Lee
US18083637: US patent App. filed 2022-12-19
KR1020210192356: KR patent App. filed 2021-12-30

[Pat.3]
Mixed reality based expeirence simulator
SeungJun Kim, Gwangbin Kim, Dohyeon Yeo, and Jieun Lee
US17015242: US patent App. filed 2020-09-09 issued 2023-08-22 *Patent granted*
KR1020200056099: KR patent filed 2020-05-11 issued 2023-03-30 *Patent granted*

[Pat.2]
Multi-channel lidar sensor module
Jiseong Jeong, Junhwan Jang, Dongkyu Kim, Sungui Hwang, Bumsik Won, and Gwangbin Kim
US11579254: US patent filed 2019-06-13 issued 2023-02-14 *Patent granted*

[Pat.1]
Device and method for acquiring object information
Jiseong Jeong, Junhwan Jang, Dongkyu Kim, Sungui Hwang, and Gwangbin Kim
KR101980697: KR patent filed 2019-02-15 issued 2019-05-15 *Patent granted*

Awards, Honors, and Scholarships

JEDI (Justice, Equity, Diversity, and Inclusion) Ambassador Recognition Award - UbiComp/ISWC 2023	Oct 2023
People's Choice for Poster - UbiComp/ISWC 2023	Oct 2023
Best Paper Award - The 14th Internatioanl Conference on Internet (ICONI 2022)	Dec 2022
2021 GIST Annual R&D Report - GIST's Research Highlights of 2020 [C.1, Pat.3]	Aug 2021
2020 GIST Annual R&D Report - GIST's Research Highlights of 2019 [W.1, Pat.3]	Aug 2020
Samsumg Electronics Presidential Award - 2018 IoT Innovation Challenge	Oct 2018
National Excellence Scholarship for Science and Engineering	Apr 2017 - Feb 2019
Honor Scholarship - Awarded for the students with high GPA	Oct 2015
GIST Scholarship - 10 years (B.S./M.S./Ph.D.), full funding & stipend	Mar 2015 - Dec 2024

Teaching Experience

Teaching Assistant

RT6304 Extended Reality Project, GIST	Fall 2021
CT4301/IR4203/FE5403/RT5301/AI6316 Human-Computer Interaction, GIST	Spring 2021 / Spring 2022
EC3202/MC3207 Signals and Systems, GIST	Spring 2019
GS1490 Software Basics and Coding, GIST	Spring 2018

Academic Services

Organizing Committee
Workshop Organizer - ACM UbiComp 2024 (Workshop on Interpretable, Inclusive, and Immersive Interaction for Ubiquitous AI-infused Physical Systems)

Operations
JEDI (Justice, Equity, Diversity, and Inclusion) Ambassador - ACM UbiComp 2023
Student Volunteer - ACM CHI 2021

Reviewer
Special Recognition for Outstanding Review: ACM DIS (2024), ACM AutoUI (2023, 2022)
Journal Papers: Proceedings of the ACM on HCI
Conference Papers: ACM DIS, ACM C&C, ACM Automotive UI, ACM VRST, ACM IDC, ACM IMX, ACM UIST
Posters and Demos: ACM CHI LBW, ACM VRST Posters and Demos, ACM ISWC Notes and Briefs