Jiwan Kim (김지완)

HCI (Around-device sensing on wearables, Digital Phenotyping) / WIT-LAB / KAIST
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EDUCATION

2024.03 – **Korea Advanced Institute of Science and Technology (KAIST),** Korea
Ph.D. in school of Electrical Engineering, WIT Lab, advisor: Ian Oakley
GPA: 4.15/4.3

2021.03 – 2024.02. **Ulsan National Institute of Science and Technology (UNIST),** Korea
Master in school of Design, Interactions Lab, advisor: Ian Oakley
GPA: 4.15/4.3

2013.03 – 2021.02. **Ulsan National Institute of Science and Technology (UNIST),** Korea
B.S. in school of Human Factor Engineering & Computer engineering
GPA: 4.07/4.3, Major: 4.13/4.3

RESEARCH EXPERIENCE

2025.01 – 2025.02 **SciFi Lab**, Computing and Information Science, Cornell University, Ithaca, NY, USA
2025.07 – 2025.07 (Advisor: Cheng Zhang)
Visiting Researcher (Advanced acoustic sensing system)

2023.11 – 2024.02 **Hyper-Reality Metaverse Research Lab at ETRI,** Daejeon, Korea
Research Assistant (Dynamic pose estimation on mobile devices)

2023.02 – 2023.08 **School of Computing and Information Systems, University of Melbourne**,
Melbourne, Australia (Advisor: Vassilis Kostakos)
Visiting Researcher (Digital phenotyping on mobile devices)

2019.09 - 2021.02 **Interactions Lab,** Dept. of Human Factor Engineering UNIST, Ulsan, Korea
Research Intern / Advisor: Ian Oakley

PUBLICATION

2026 CHI **Jiwan Kim,** Chi-Jung Lee, Hohurn Jung, Tianhong Catherine Yu, Ruidong, Zhang, Ian Oakley, and Cheng Zhang. 2026. WatchHand: Enabling Continuous Hand Pose Tracking On Off-the-Shelf Smartwatches. In Proceedings of the 2026 CHI Conference on Human Factors in Computing Systems
[To appear: Cond. Accepted.]

2025 ISWC Kian Mahmoodi*, Yudong Xie*, Tan Gemicioglu*, Chi-Jung Lee, **Jiwan Kim**, and Cheng Zhang. 2025. EchoForce: Continuous Grip Force Estimation from Skin Deformation Using Active Acoustic Sensing on a Wristband. Proceedings of the 2025 ACM International Symposium on Wearable Computers.
[DOI]

2025 CHI	**Jiwan Kim**, Jiwan Son, and Ian Oakley. 2025. Cross, Dwell, or Pinch: Designing and Evaluating Around-Device Selection Methods for Unmodified Smartwatches. Proceedings of the 2025 CHI conference on Human Factors in Computing systems. **[DOI]**	**[Video]**	**[Open Source]**
2025 CHI	**Jiwan Kim**, Mingyu Han, and Ian Oakley. 2025. BudsID: Mobile-Ready and Expressive Finger Identification Input for Earbuds. Proceedings of the 2025 CHI conference on Human Factors in Computing systems. **[DOI]**	**[Video]**	**[Open Source]**
2025 ETRA	Yeji Park, **Jiwan Kim**, and Ian Oakley. 2025. GazeHandSync: Mitigating Late-Trigger Errors for Seamless Gaze-Hand Interactions. ETRA '25 Short Papers: ACM Symposium on Eye Tracking Research and Applications. **[DOI]**
2024 IJHCS	**Kim, J.,** Lee, D., Han, M., Kim, J., Kostakos, V., & Oakley, I. (2024). Unpacking Instagram use: The impact of upward social comparisons on usage patterns and affective experiences in the wild. *International Journal of Human-Computer Studies*, 103323. **[DOI]**	Impact Factor 5.4
2022 CHI	**Jiwan Kim**, and Ian Oakley. 2022. SonarID: Using Sonar to Identify Fingers on a Smartwatch. Proceedings of the 2022 CHI conference on Human Factors in Computing systems. **[DOI]**	**[Video]**	**[Open Source]**
2021 CHI	Doyoung Lee, **Jiwan Kim**, and Ian Oakley. 2021. FingerText: Exploring and Optimizing Performance for Wearable, Mobile and One-handed Typing. Proceedings of the 2021 CHI conference on Human Factors in Computing systems. **[DOI]**	**[Video]**

Under Review

2026	Continuous Body Pose Tracking Using Wrist Wearables

POSTER / DEMO PAPERS

2024 UIST	**Jiwan Kim**, Hohurn Jung, and Ian Oakley. 2024. VibraHand: In-Hand Superpower Enabling Spying, Precognition, and Telekinesis. In The Adjunct Publication of the 37th Annual ACM Symposium on User Interface Software and Technology *** Best People's Choice Award,** **[DOI]**	**[Video]**
2023 UbiComp	**Jiwan Kim**, Jongjin Park, and Ian Oakley. 2023. SonarAuth: Using Around Device Sensing to Improve Smartwatch Behavioral Biometrics (UbiComp-ISWC '23 Poster) **[DOI]**	**[Video]**
2022 UIST	**Jiwan Kim** and Hyunjae Gil. 2022. Top-Levi: Multi-User Interactive System Using Acoustic Levitation. In The Adjunct Publication of the 35th Annual ACM Symposium on User Interface Software and Technology (UIST '22 Adjunct).

* Best Jury Award ($1000), Honorable Mention for People's Choice ($500)
[DOI] | **[Video]**

WORKSHOP PAPERS

2025 UbiComp   **Jiwan Kim***, Chi-Jung Lee*, Xiaoran Fan, Dong Li, Edison Thomaz, Alanson Sample, Ian Oakley, and Cheng Zhang. 2025. BeyondSound: The First Workshop on Intelligent Acoustic Sensing on Wearables. In Companion of the 2025 ACM International Joint Conference on Pervasive and Ubiquitous Computing (UbiComp'25, Workshop Proposal)
[DOI] | **[Website]** | **[CFP]**

2025 UbiComp   **Jiwan Kim**, Hohurn Jung, and Ian Oakley. 2025. OpenAcoustics: An Open-Source Framework for Acoustic Data Capture on Smart Devices and Microcontrollers. In Companion of the 2025 ACM International Joint Conference on Pervasive and Ubiquitous Computing (UbiComp'25, Beyond Sound Workshop).
[DOI] | **[Open Source]**

2024 UbiComp   Yeji Park, **Jiwan Kim**, and Ian Oakley. 2024. The Impact of Gaze and Hand Gesture Complexity on Gaze-Pinch Interaction Performances. In Companion of the 2024 ACM International Joint Conference on Pervasive and Ubiquitous Computing (UbiComp Companion '24)
[DOI]

2023 IEEE BigComp   **Jiwan Kim**, Doyoung Lee, Jaeho Kim, and Ian Oakley. 2023. Can Eye Gaze Improve Emotional State Detection on Off the Shelf Smart Devices. In IEEE BigComp 2023 Workshop on "IoT Big Data for Health and Wellbeing".
[DOI]

2022 CHI   **Jiwan Kim** and Ian Oakley. 2022. New Sensors and Features for Digital phenotyping on Off the Shelf Smart Devices. In CHI 2022 Workshop on "The Future of Emotion in Human-Computer Interaction".
[PDF]

ACADEMIC SERVICE

Organizer   UbiComp-ISWC 2024 SV Co-chair,
             UIST 2025 Registration Co-chair
Session Chair   UIST 2025 Interacting with Fingers and Hands Session Chair
Reviewer (35 +)   CHI (24, 25, 26), UIST (25), IJHCI (24, 25), DIS (24), IMWUT (24, 25), ISS (23, 24), TEI (24, 25), CHI-LBW (24, 25), MobileHCI LBW (23)
SV   CHI 2022, UbiComp-ISWC 2024 (CO-chair)

RESEARCH GRANT

2024.09 – 2026.08   **National Research Foundation of Korea (NRF)**
                     Around-Device Sensing and Interaction On Wearables
                     PI, $50,000 for 2024.09 - 2026.08, Outcome: **Cross, Dwell, or Pinch**

2024.07 -	**Information Technology Research Center (ITRC)** Spatial Computing HCI Technology for Everywhere XR Productivity Workstation Participating Researcher (PI: Prof. Geehyuk Lee), 2024.07 - , Outcome: **Cross, Dwell, or Pinch**, **BudsID**, **WatchHand**
2024.05 – 2024.12	**KAIST, Venture Research Program** Developing a Smart Ring Companion For Wearable Input Lead Researcher, $10,000 for 2024.05 - 2024.12, Outcome: **VibraHand**
2023.03 – 2026.02	**National Research Foundation of Korea (NRF)** Multimodal Interaction for Augmented Reality Participating Researcher (PI: Prof. Ian Oakley), 2023.03 - 2026.02, Outcome: **BudsID**, **GazeHandSync**
2021.07 – 2023.06	**National Research Foundation of Korea (NRF)** 행동중재 디지털치료 콘텐츠 개발 및 데이터 수집·분석·표준화 시스템 구축 Participating Researcher (PI: Prof. Hyungsook Kim), 2021.07 - 2023.06, Outcome: **Unpacking Instagram Use**
2021.03 – 2023.02	**Ministry of Trade, Industry and Energy of Korea (MOTIE)** New Technology Convergence Design Professional Training Project (NTCDPT) Lead Researcher (PI: Prof. Ian Oakley), 2021.03 - 2023.02, Outcome: **SonarID**
2020.06 – 2023.02	**National Research Foundation of Korea (NRF)** WalkAR: Enabling Mobile Input For Smart Glasses Participating Researcher (PI: Prof. Ian Oakley), 2020.06 - 2023.02, Outcome: **FingerText**

RECOGNITION

2024. 10	**Best People's Choice Award** VibraHand: In-Hand Superpower Enabling Spying, Precognition, and Telekinesis. Awarded by **2024 UIST Student Innovation Contest.**
2024.04	**Presidential Science Scholarship for Graduate Student** 대학원 대통령 과학장학생 (Acc.Rate: 4%, $96,000 for 4 yrs) Awarded by the President of Korea.
2022. 11	**Best Jury Award, Honorable Mention for People's Choice** Top-Levi: Multi-User Interactive System Using Acoustic Levitation. Awarded by **2022 UIST Student Innovation Contest.**
2021. 05	**Finer Winner,** Junction-X-Seoul 2021 (3,000,000 KRW) One of the biggest global Hackathon in Korea
2021. 02	**Minister's Award (Top of the school)**, UNIST commencement ceremony Awarded by the Minister of Science, ICT and Future Planning
2019. 11	**3rd prize** Uni-Code programming contest**,** HEXA & NAVER

| 2018. 12 | **Award for devotion,** UNIST, Korea |
| | Contribution to school development by student activity(student president) |

| 2017. 12 | **Best prize, Capstone Design Award** |
| | Awarded by Ergonomics society of Korea, Korea |

| 2017. 05 | **Best prize, 9th Design Contest for other 90%,** |
| | Awarded by Korean ministry of science, ICT, Korea |

2016-2019	**Academic Achievement Award**
	2016 Spring(4.06/4.3), 2016 Fall(4.22/4.3)
	2017 Spring(4.12/4.3), 2017 Fall(3.94/4.3)
	2019 Fall(4.20/4.3)

ACTIVITIES

| 2020.01 – 2023.02 | **President(2021.02-), Executive board member(2020.01-2021.02),** |
| | DINO(Making club; using Arduino) @ UNIST |

2020.03 – 2020.10	Launch **COVID-19 Tracking Map for Ulsan Region**, Template for Other Region
	Jiwan Kim(Developer, Leader), Daeseong Jeon(Developer), Taeyoon Kim(Design)
	https://news.unist.ac.kr/unist-students-launch-covid-19-tracking-map-for-ulsan-region/

| 2019.03 - 2019.08 | **Grill & Fry Chef**, The Chicken Shed, Cairns, Australia |

| 2018.03 - 2019.03 | **Student President,** UNIST, Ulsan, Korea |

2016 - 2018	**Director**, Humans of UNIST, Ulsan, Korea
	Telling UNIST people's little stories in SNS and published 2 books.
	www.facebook.com/humansofunist

| 2017.07-08 | **World Friends ICT Volunteering,** Regent University, Accra, Ghana |
| | Teaching web programming/ Android programming / Culture exchange |

| 2016.07-08 | **World Friends ICT Volunteering,** DEOKE Foundation School, Accra, Ghana |
| | Teaching MS Office program / Culture exchange |

| 2014.01 – 2016.01 | **Military service** as a graphic designer at the Republic of Korea Air Force |