Bogoan Kim, Ph.D.

RESEARCH INTEREST

My research centers on human-computer interaction and digital healthcare, and social computing. I design and develop data-driven interventions that promote well-being by leveraging mobile and VR technologies for holistic health support. Emphasizing the interplay between technological and social systems, I focus on translating these insights into scalable, user-centered software systems that integrate data-driven modeling and interactive design.

EDUCATION

Hanyang University, Seoul, Korea   Feb 2025
- *Ph.D. in Artificial Intelligence*
  - Dissertation: BalancePath: AI-VR Framework for Personalized Adaptive System
  - Advisor: Prof. Kyungsik Han

University of Minnesota – Twin Cities, MN, USA   May 2017
- *B.A. in Statistics*
  - Thesis: Moderate-to-Vigorous Physical Activity and BP in Hypertensive Adults
  - Advisor: Prof. Barbara Kuzmak

POSITIONS

KAIST, Dajeon, Korea   May 2025 – Present
- *Postdoctoral Research Associate, School of Computing*
  - Topic: LLM-Based Personalized Discomfort Prediction Model Using Multimodal Data
  - Advisors: Profs. Hwajung Hong and Uichin Lee

Hanyang University, Seoul, Korea   Mar 2025 – Apr 2025
- *Postdoctoral Research Associate, Department of Artificial Intelligence*
  - Topic: Clinically-Grounded Digital Transformation Framework
  - Advisor: Prof. Kyungsik Han

The Pennsylvania State University, PA, USA   Jan 2020 – Jun 2020
- *Visiting Scholar, College of IST*
  - Topic: Human Factors in Fake News Detection and Echo Chamber Mitigation
  - Advisors: Profs. Dongwon Lee and Aiping Xiong

Indiana University, IN, USA   Jun 2019 – Sep 2019
- *Visiting Scholar, Luddy School of Informatics*
  - Topic: RCT on Mobile Game to Promote Physical Activity in Autistic Adults
  - Advisors: Profs. Patrick C. Shih and Georgia C. Frey

AWARDS & HONORS

Jang Young Sil Postdoctoral Fellowship	2025
HYU Postdoctoral Research Fellowship	2025
NRF of Korea Ph.D. Fellowship	2023
• Granted 40M KRW (equivalent to 35,000 USD) stipend for 2-year Ph.D. studies	
UIST 2023 Travel Grant for Doctoral Symposium	2023
Gary Marsden Travel Award for CHI 2023	2023
SK Creative Challenge Finalist	2022
IITP Best Global Research Team Award	2021
IITP High-Potential Individuals Global Training Fellowship	2020
Indiana University Global Talent Attraction Program (GTAP) Fellowship	2019
Honors on the Dean's List	2011, 2012, 2015
Global Excellence Scholarship (merit-based; 4,210 USD)	2011

Special Recognitions for Outstanding Reviews
- CHI 2024, CHI 2025

Domestic Conference Awards
- Best Paper Awards: KDMS (2024: Grand Paper, Best Paper)
- Best Presentation Award: KIISE KCC (2024)

PUBLICATIONS   **Preprint and Under-Review Manuscripts** (* indicates equal contributions)

[u.2] M Kim, <u>B Kim</u>, K Han. (*Under Review at One of the Top-Tier CS Conferences*)

[u.1] <u>B Kim</u>, D Jeong, Y Choi, K Han. (*Under Review at One of the Top-Tier CS Conferences*)

Refereed International Conference and Journal Papers (* indicates equal contributions)

[p.14] Enhancing Mindfulness-Based Cognitive Therapy in a Virtual Reality: A Prospective Interventional Study
{<u>B Kim</u>*, D Jeong*}, Y Choi, Y-Y Choi, H Kim, and K Han
Scientific Reports (SCIE Journal 2025, Q1)

[p.13] "I Don't Know Why I Should Use This App": Holistic Analysis on User Engagement Challenges in Mobile Mental Health
{S Jin*, <u>B Kim</u>*}, and K Han
CHI 2025 (*ACM CHI Conference on Human Factors in Computing Systems*)
Links ⤢: [PDF] [Media]

[p.12] Narrating Routines through Game Dynamics: Impact of a Gamified Routine Management App for Autistic Individuals
<u>B Kim</u>, D Jeong, H Hong, and K Han
CHI 2024 (*ACM CHI Conference on Human Factors in Computing Systems*)
Links ⤢: [PDF] [10-min Talk] [Video] []

[p.11] Promoting Self-Efficacy of Individuals with Autism in Practicing Social Skills in the Workplace Using Virtual Reality and Physiological Sensors: A Feasibility Study
SI Kim, S Jang, T Kim, <u>B Kim</u>, D Jeong, T Noh, M Jeong, HJ Yoo, K Han, H Hong, and JG Kim
JMIR Formative Research (SCOPUS Journal 2024)
Links ⤢: [PDF] [Video]

[p.10] V-DAT: Supporting Self-Awareness for Autistic People from Multimodal VR Sensor Data
<u>B Kim</u>, D Jeong, JG Kim, H Hong, and K Han
UIST 2023 (*ACM Symposium on User Interface Software and Technology*)
Links ⤢: [PDF] [10-min Talk] [Video]

[p.9] RoutineAid: Externalizing Key Design Elements to Support Daily Routines of Individuals with Autism
<u>B Kim</u>, SI Kim, S Park, HJ Yoo, H Hong, and K Han
CHI 2023 (*ACM CHI Conference on Human Factors in Computing Systems*)
Links ⤢: [PDF] [10-min Talk] [Video] []

[p.8] VISTA: User-Centered VR Training System for Effectively Deriving Characteristics of Autistic Individuals
<u>B Kim</u>, D Jeong, M Jeong, T Noh, SI Kim, T Kim, S Jang, HJ Yoo, JG Kim, H Hong, and K Han
VRST 2022 (*The ACM Symposium on Virtual Reality Software and Technology*)
Links ⤢: [PDF] [10-min Talk] [Video] [Media]

[p.7] A Systematic Review on Fake News Research through the Lens of News Creation and Consumption: Research Efforts, Challenges, and Future Directions
<u>B Kim</u>, A Xiong, D Lee, and K Han
PLoS ONE (SCIE Journal 2021, Q1)
Links ⤢: [PDF]

[p.6] ChamberBreaker: Mitigating the Echo Chamber Effect and Supporting Information Hygiene through a Gamified Inoculation System
Y Jeon, <u>B Kim</u>, A Xiong, D Lee, and K Han
CSCW 2021 (*ACM Conference on Computer-Supported Cooperative Work and Social Computing*)
Links ⤢: [PDF] [Media]

[p.5] Usability Assessment of a Mobile Health Intervention for Increasing Physical Activity in Autistic Adults
D Lee, GC Frey, A Min, <u>B Kim</u>, D Cothran, S Bellini, K Han, and PC Shih
Health Informatics Journal (SCIE Journal 2020, Q2)
Links ⤢: [PDF]

[p.4] PuzzleWalk: A Theory-Driven Iterative Design Inquiry of a Mobile Game for Promoting Physical Activity in Autistic Adults
B Kim, D Lee, A Min, S Paik, GC Frey, S Bellini, K Han, and PC Shih
PLoS ONE (SCIE Journal 2020, Q1)
Links ⬈: PDF

[p.3] No More One Liners: Bringing Context into Emoji Recommendations
J-G Kim, T Gong, B Kim, J Park, W Kim, E Huang, K Han, J Kim, JG Ko, and S-J Lee
ACM Transactions on Social Computing 2020
Links ⬈: PDF

[p.2] ATM: The Effectiveness of Self-Regulation on Time Management through a Smartphone Application
B Kim, S-W Lee, H Hong, and K Han
IEEE Access (SCIE Journal 2019, Q1)
Links ⬈: PDF

[p.1] Photos Don't Have Me, But How Do You Know Me?: Analyzing and Predicting Users on Instagram
K Han, Y Jo, Y Jeon, B Kim, J Song, and S-W Kim
UMAP 2018 (*ACM Conference on User Modeling, Adaptation and Personalization*)
Links ⬈: PDF

International Conference Posters / WiP Abstracts (Lightly Peer Reviewed)

[w.9] Early Prediction of Cybersickness in Virtual Reality Using a LLM for Multimodal Time Series Data
Y Choi, D Jeong, B Kim, and K Han
UbiComp 2024 (*ACM Conference on Interactive, Mobile, Wearable and Ubiquitous Technologies*)
Mentoring, Poster presentation

[w.8] Supporting Independence of Autistic Adults through Mobile and Virtual Reality Technologies
B Kim
UIST 2023 (*ACM Symposium on User Interface Software and Technology*)
Doctoral Symposium

[w.7] Objectively Measured Physical Activity and Sedentary Time in Autistic Adults
D Lee, PC Shih, B Kim, K Han, A Min, D Cothran, S Bellini, and GC Frey
MSSE 2020 (*Medicine and Science in Sports and Exercise*)
WiP abstract

[w.6] A Study on the Text-Based Characteristics of A Autistic Individuals through Social Media Data Analysis
J Han, B Kim, and K Han
ICNGC 2020 (*The International Conference on Next Generation Computing*)
Mentoring, Oral presentation

[w.5] FashionQ: An Interactive Tool for Analyzing Fashion Style Trend with Quantitative Criteria
Y Jeon, S Jin, B Kim, and K Han
CHI LBW 2020 (*ACM Conference on Human Factors in Computing Systems*)
Poster presentation

[w.4] Ecological Momentary Assessment of Physical Activity and Anxiety in Autistic Adults
D Lee, D Cothran, S Bellini, PC Shih, K Han, B Kim, A Min, S Paik, and GC Frey
INSAR 2020 (*International Society for Autism Research*)
WiP abstract

[w.3] Bringing Context into Emoji Recommendations
J-G Kim, T Gong, B Kim, J Park, E Huang, W Kim, K Han, J Kim, JG Ko, and S-J Lee
MobiSys 2019 (*ACM Conference on Mobile Systems, Applications, and Services*)
Poster presentation

[w.2] Iterative Design and Usability of Gamified Application for Adults with Autism Spectrum Disorder
S Paik, B Kim, and K Han
ICNGC 2019 (*The International Conference on Next Generation Computing*)
Mentoring, Oral presentation

[w.1] Leveraging Mobile Technology to Support Goal Setting and Strategies of College Students
<u>B Kim</u>, S Rhim, K Han, and S-W Lee
UbiComp 2018 (*ACM Conference on Interactive, Mobile, Wearable and Ubiquitous Technologies*)
Poster presentation

Domestic Journal and Short Papers (In Korean, Lightly Peer Reviewed)

[k.16] A Generative AI System Interacting Based on Fashion Designers' Abstract Expressions
M Kim, <u>B Kim</u>, and K Han
SFTI 2025 *(The Society of Fashion Textile Industry)*
Poster presentation

[k.15] VR-Based Mindfulness for Depression Alleviation: Focusing on Content Development and Data Analysis
Y Choi, <u>B Kim</u>, D Jeong, H Kim and K Han
HCIK 2025 *(HCI Society of Korea)*
Mentoring, Oral presentation

[k.14] Development of a Personalized Early Prediction Model for Cybersickness in Virtual Reality
Y Choi, D Jeong, <u>B Kim</u>, and K Han
Journal of KTCP *(KIISE Transactions on Computing Practices, 2024)*
Mentoring, KCI Journal Submission

[k.13] Development of a Personalized Early Prediction Model for Cybersickness in Virtual Reality Using LLM
Y Choi, D Jeong, <u>B Kim</u>, and K Han
KDMS 2024 *(Korea Data Mining Society)*
Mentoring, Poster presentation
🏆 Grand Paper Award

[k.12] A Study on the Effectiveness of VR-Based Mindfulness-Based Cognitive Therapy Using Multimodal Data
D Jeong, <u>B Kim</u>, Y Choi, and K Han
KDMS 2024 *(Korea Data Mining Society)*
Mentoring, Poster presentation
🏆 Best Paper Award

[k.11] Predicting Cybersickness in Virtual Reality through a Long-term Time Series Forecasting Model
Y Choi, D Jeong, <u>B Kim</u>, and K Han
KCC 2024 *(Korea Computer Congress)*
Mentoring, Poster presentation
🏆 Best Presentation Award

[k.10] CoFashion: An AI Web Interface Enhancing Creative Thinking for Fashion Designers
M Joo, M Kim, <u>B Kim</u>, and K Han
KSC 2023 *(Korea Software Congress)*
Mentoring, Oral presentation

[k.9] A Study on Mobile Game Design to Support Daily Routines of Individuals with Autism
<u>B Kim</u>, S-I Kim, S Park, HJ Yoo, H Hong, and K Han
Journal of he HCI Society of Korea *(HCI Society of Korea, 2022)*
KCI Journal Submission

[k.8] Mobile Game Design to Promote Daily Routines for Autistic Adolescents
<u>B Kim</u>
HCIK 2021 *(HCI Society of Korea)*
Doctoral Consortium

[k.7] A Text-Based Characteristic Analysis of Autistic People through Social Media Data Analysis
J Han, <u>B Kim</u>, and K Han
HCIK 2021 *(HCI Society of Korea)*
Mentoring, Poster presentation

[k.6] A Case Study on the Purpose and Patterns of Social Media Use in Autistic People
Y Lee, <u>B Kim</u>, and K Han
HCIK 2021 *(HCI Society of Korea)*
Mentoring, Oral presentation

[k.5] A Study on the Quantitative Criteria-Based Fashion Style: Focusing on Expert Knowledge and Deep Learning Modeling
Y Jeon, S Jin, <u>B Kim</u>, S Paik, and K Han
HCIK 2020 *(HCI Society of Korea)*
Oral presentation

[k.4] Development and Effectiveness of a Smartphone Application for Self-Regulation of College Students
<u>B Kim</u> and K Han
HCIK 2019 *(HCI Society of Korea)*
Poster presentation

[k.3] Analyzing Opportune Moments with Smartphone Sensor Data
<u>B Kim</u>, S Rhim, and K Han
HCIK 2019 *(HCI Society of Korea)*
Oral presentation

[k.2] Image-based Age and Gender Prediction Modeling Excluding Person-related Information
Y Jo, Y Jeon, <u>B Kim</u>, and K Han
KINGC 2018 *(Korean Institute of Next Generation Computing)*
Poster presentation

[k.1] A Study on Goal Setting and Achievement Strategies of College Students
S Rhim, <u>B Kim</u>, S-W Lee, and K Han
KICS 2018 *(Korean Institute of Communications and Information Sciences)*
Poster presentation

PATENTS & SOFTWARE

Granted Patent

- A Mobile System for Routine Management in Autistic Individuals   Oct 2024
  Registration Number: **KR10-2729263**

Filed Patents

- VR Data Analysis Tool to Support Self-Awareness for Autistic Individuals   Aug 2023
  Application Number: **KR10-2023-0116955**

- VR-based Interactive Social Skills Training System for Autistic Individuals   Aug 2023
  Application Number: **KR10-2023-0116954**

Registered Software

- VR-based Dashboard for Clinical Support and Patient Monitoring in Depression Care   Oct 2024
  Registration Number: **C-2024-034698**

TEACHING EXPERIENCE

Instructor / Co-lecturer (Taught all courses in English)
- Computational Social Science (**Co-lecturer**)   Spring 2025
- Human-Computer Interaction (**Instructor**)   Fall 2024
- Human-Computer Interaction (**Instructor / Teaching Fellow**)   Fall 2023
- Introduction to Software Design (**Co-lecturer**)   Spring 2023
- Creative Software Design (**Co-lecturer**)   Fall 2022
- Introduction to Software Design (**Co-lecturer**)   Spring 2022
- Creative Software Design (**Co-lecturer**)   Fall 2021
- Data Structures and Practice (**Co-lecturer**)   Spring 2021
- Data Structures and Practice (**Co-lecturer**)   Spring 2019

Senior Teaching Assistant (Developed and led lab sessions, created materials)

- Algorithms — Fall 2020
- Introduction to AI Programming Language — Spring 2020
- AI Intensive Class — Fall 2019

Teaching Assistant

- The Basics of Data Analytics — Fall 2018
- The Basics of Data Analytics — Spring 2018

INVITED TALKS

Lab Guest Speaker Session, Dajeon, Korea — May 2025
- Host: DxD Lab @ KAIST
- Topic: Software Systems for Solving Real-World Challenges

Omnibus Lecture Series on Computational Social Science, Seoul, Korea — Mar 2025
- Host: Department of Data Science @ Hanyang University
- Topic: User-Centered Digital Healthcare

Computational Social Science Colloquium, Seoul, Korea — May 2024
- Host: Center for Computational Social Science @ Hanyang University
- Topic: Sociotechnical Systems for People Who Are in Need

Top Conference Session, Hongcheon, Korea — Jan 2024
- Host: HCI Korea 2024
- Topic: Impact of a Gamified Routine Management App for Autistic Adults

Top Conference Session, Jeju, Korea — Jun 2023
- Host: Korea Computer Congress (KCC) 2023
- Topic: Externalizing Key Design Elements to Support Daily Routines of Autistic Adults

IITP Global Talent Program Workshop, Seoul, Korea — Dec 2021
- Host: Institute of Information & Communications Technology Planning & Evaluation (IITP)
- Topic: Explainable Fake News Detection with Deep Learning and Human Factors

Global Talent Attraction Program Conference, Bloomington, IN USA — Jun 2019
- Host: Luddy School of Informatics, Computing, and Engineering @ Indiana University
- Topic: Designing a Mobile Game to Promote Physical Activity in Autistic Adults

Global Challenge Program Symposium, Tokyo, Japan — Jun 2018
- Host: Environment and Information Studies @ Keio University
- Topic: Effectiveness of a Smartphone App in Self-Regulating Time Management

ACADEMIC SERVICES

Conference Reviewer

- The Conference on Human Factors in Computing Systems (**CHI**) — 2019 - 2025
- The Conference on Interactive, Mobile, Wearable and Ubiquitous Technologies (**IMWUT**) — 2019 - 2025
- The Designing Interactive Systems Conference (**DIS**) — 2025
- The Conference on Computer-Supported Cooperative Work & Social Computing (**CSCW**) — 2019 - 2024
- The Conference on Information and Knowledge Management (**CIKM**) — 2021 - 2023
- The Symposium on Applied Computing (**SAC**) — 2022

Journal Reviewer

- JMIR Formative Research — 2025
- The Nature Scientific Reports — 2024
- The Taylor and Francis Interactive Learning Environments — 2023

Student Volunteer

- The Conference on Mobile Systems, Applications, and Services (**MobiSys**) — 2019

REFERENCES   **Kyungsik Han**, *Associate Professor* (Ph.D. Advisor)   kyungsikhan@hanyang.ac.kr
Department of Data Science, Hanyang University

Hwajung Hong, *Professor* (Postdoc. Advisor)   hwajung@kaist.ac.kr
Department of Industrial Design, KAIST

Jennifer G. Kim, *Assistant Professor* (Collaborator)   jennifer.kim@cc.gatech.edu
School of Interactive Computing, Georgia Institute of Technology

Dongwon Lee, *Professor* (Collaborator)   dongwon@psu.edu
College of IST, The Pennsylvania State University – University Park

Patrick C. Shih, *Associate Professor* (Collaborator)   patshih@indiana.edu
Luddy School of Informatics, Indiana University – Bloomington

Georgia C. Frey, *Associate Professor* (Collaborator)   gfrey@indiana.edu
School of Public Health, Indiana University – Bloomington

Aiping Xiong, *Associate Professor* (Collaborator)   axx29@psu.edu
College of IST, The Pennsylvania State University – University Park

Daehyoung Lee, *Assistant Professor* (Collaborator)   dhlee@udel.edu
Department of Health Behavior and Nutrition Sciences, University of Delaware