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CONTACT INFORMATION

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RESEARCH INTERESTS

Understanding human behaviors and psychiatric disorders in real world through the lens of large-scale data (e.g., mobile-sensing user logs, online social network logs, and so on)

- Predicting and interpreting the degree of disorders utilizing deep-learning approaches
- Discovering users' unique traits driving the disorders
- Developing customized mobile intervention applications

Google Scholar https://scholar.google.com/citations?user=eXQ8BsMAAAAJ&hl=ko&oi=ao

EDUCATION

Korea Advanced Institute of Science and Technology (KAIST), Daejeon, South Korea

Ph.D. in Graduate School of Culture Technology August 2020

- Thesis Topic: Neural Network-based Learning of Sleep Patterns and Application-driven Interventions
- Advisor: Dr. Meeyoung Cha & Dr. Wonjoon Kim

Korea Advanced Institute of Science and Technology (KAIST), Daejeon, South Korea

M.S. in Graduate School of Web Science Technology, School of Computing August 2014

- Thesis Topic: Exploring Depressive Moods through the Lens of Online Social Behaviors
- Advisor: Dr. Meeyoung Cha

Sungkyunkwan University (SKKU), Suwon, South Korea

B.S. in Information and Communication Engineering February 2009

SELECTED PUBLICATIONS

M. Koo, D. Kim, S. Han, and **S. Park**. Platform-Invariant Topic Modeling via Contrastive Learning to Mitigate Platform-Induced Bias. In *proc. of The 2024 Conference on Empirical Methods in Natural Language Processing (EMNLP) – Findings*, 2024. (Paper will be presented on Nov 14, 2024)

M. P. Lee, K. Hoang, **S. Park**, Y. M. Song, E. Y. Joo, W. Chang, J. H. Kim, and J. K. Kim. Imputing Missing Sleep Data from Wearables with Neural Networks in Real-world Settings. Sleep, zsad266, 2023. doi:10.1093/sleep/zsad266. *Impact Factor = 6.313* **[SCIE]**

S. Park, A. Zhunis, M. Constantinides, L. M. Aiello, D. Quercia, and M. Cha. Social Dimensions Impact Individual Sleep Quantity and Quality. Scientific Reports, 13(1):1-11, 2023. doi:10.1038/s41598-023-36762-5. *Impact Factor = 4.6* **[SCIE]**

S. Han, M. Shin, **S. Park**, C. Jung, and M. Cha. Unified Neural Topic Model via Contrastive Learning and Term Weighting. In *proc. of European Association for Computational Linguistics 2023 (EACL)*, 2023. doi:10.18653/v1/2023.eacl-main.132. *Acceptance rate for the main conference = 24.1%*

M. S. Kim, **S. Park**, M. Cha, and S. W. Lee. Effects of Child Maltreatment on Physical Activity and Sleep in Healthy Adults: A Wearable Device Use Experiment. *Journal of the Korean Society of Biological Therapies in Psychiatry*, 28(2):74–82, 2022. (Paper in Korean)

S. Park, M. Whiting, M. M. Molaie, H. Chin, S. W. Lee, and M. Cha. Do Differences in National or Political Identity Matter More for Preferences? In *proc. of the 8^{th} International Conference on Computational Social Science (IC^2S^2)*, 2022. (Extended Abstract, Presented at the poster session)

S. Park, H. Song, S. Han, B. Weldegebriel, L. Manovich, E. Arielli and M. Cha. Using Web Data to Reveal 22-Year History of Sneaker Designs. In *proc. of The Web Conference 2022 (WWW)*, 2022. doi:10.1145/3485447.3512017. *Acceptance rate for full paper = 17.7%*
[BEST PAPER CANDIDATE (Top 3.4% of the accepted papers)]

S. Park, H. Song, S. Han, L. Manovich, E. Arielli, and M. Cha. The Shape of Design History: Exploring Evolution of Sneakers Design at Scale Using Neural Embedding. In *proc. of the 7^{th} International Conference on Computational Social Science (IC^2S^2)*, 2021. (Extended Abstract)

S. Park, S. Han, J. Kim, M. M. Molaie, H. D. Vu, K. Singh, J. Han, W. Lee, and M. Cha. COVID-19 Discourse on Twitter: Case Study of Risk Communication in Four Asian Countries. *Journal of Medical Internet Research (JMIR)*, 03/03/2021:23272, 2021. doi:10.2196/23272. *Impact Factor = 5.03* **[SCIE]**

S. Park, S. Han, S. Kim, D. Kim, **S. Park**, S. Hong, and M. Cha. Improving Unsupervised Image Clustering With Robust Learning. In *proc. of the 2021 IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2021. *Acceptance rate for full paper ≈ 25%*

S. Park, S. W. Lee, D. Ahn, and M. Cha. Designing a Mobile Intervention Platform to Help Alleviate Insomnia Symptoms in College Students. *Journal of the Korean Society of Biological Therapies in Psychiatry*, 27(1):50–58, 2021. (Paper in Korean)

S. Park, J. Y. Park, H. Chin, J. Kang, and M. Cha. An Experimental Study to Understand User Experience and Perception Bias Occurred by Fact-checking Messages. In *proc. of The Web Conference 2021 (WWW)*, 2021. doi:10.1145/3442381.3450121. *Acceptance rate for full paper = 20.6%*

S. Park, J. Y. Park, J. Kang, and M. Cha. The Presence of Unexpected Biases in Online Fact-checking. *Harvard Kennedy School (HKS) Misinformation Review*, 2021. doi:10.37016/mr-2020-53.

M. Shin, S. Han, **S. Park**, and M. Cha. A Risk Communication Event Detection Model via Contrastive Learning. In *the 3rd Workshop on NLP for Internet Freedom (NLP4IF), co-located with COLING*, accepted for the oral presentation, 2020. (Short paper)

S. Park, S. Han, J. Kim, M. M. Molaie, H. D. Vu, K. Singh, J. Han, W. Lee, M. Cha. Risk communication in Asian countries: COVID-19 discourse on Twitter. In *In-depth Stage Sessions and Presentations in the Conference for Truth and Trust Online (TTO),* 2020. (Short paper)

S. Park, M. Constantinides, L. M. Aiello, D. Quercia, and P. v. Gent. WellBeat: A Framework for Tracking Daily Well-being Using Smartwatches. *IEEE Internet Computing*, 2020. doi:10.1109/MIC.2020.3017867. *Impact Factor = 4.231* **[SCIE]**

S. Han, S. Park, **S. Park**, S. Kim, and M. Cha. Mitigating Embedding and Class Assignment Mismatch in Unsupervised Image Classification. In *proc. of the 2020 European Conference on Computer Vision (ECCV)*, 2020. *Acceptance rate for full paper = 27.1%*

S. Park, S. W. Lee, S. Han, and M. Cha. Clustering Insomnia Patterns by Data from Wearable Devices: Algorithm Development and Validation. *JMIR Mhealth and Uhealth (JMU)*, 2019. doi:10.2196/14473. *Impact Factor = 4.301* **[SCIE]**

S. Park, C. T. Li, S. Han, H. Cheng, S. W. Lee, and M. Cha. Learning Sleep Quality from Daily Logs, In *proc. of the 25th ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD)*, 2019. *Acceptance rate for full paper = 14.2%*

S. Park, S. W. Lee, and M. Cha. Exploring Insomnia-related Clusters based on Intricate Relationship Among Behavioral, Biological, and Sleeping Data: Focusing on a Smart Band Wearing Experiment, In *proc. of the Korean DataBase Conference (KDBC)*, 2018. (Korean)

S. Park, S. W. Lee, and M. Cha. Exploring intricate relationship among behavioral, biological, and sleeping dimensions, In *proc. of the International School and Conference on Network Science (NetSci)*, 2018. (Abstract)

S. Park, I. Kim, and M. Cha. Mobile calling patterns are linked to young adults' mental health, In *proc. of the International Workshop on Data and Text Mining in Biomedical Informatics (DTMBIO). CIKM*, 2017. (Short paper)

S. Park, J. Park, S. Cho, and J. Won. Approaches to Successful Entry of the Ride-sharing Service for Startups. In *proc. of ACM CHI Conference Extended Abstracts on Human Factors in Computing Systems*, 2017.

S. W. Lee, I. Kim, J. Yoo, **S. Park**, B. Jeong, and M. Cha. Insights from an expressive writing intervention on Facebook to help alleviate depressive symptoms, In Elsevier Computers in Human Behavior, 62: 613-619, 2016. *Impact Factor = 2.694* **[SSCI]**

I. Kim, S. W. Lee, **S. Park**, J. Yoo, M. Cha, and B. Jeong. Designing an expressive writing platform for young adults in Korea. In *proc. of ACM CHI Workshop on HCI and Health*, 2015.

S. Park, I. Kim, S. W. Lee, J. Yoo, B. Jeong, and M. Cha. Manifestation of Depression and Loneliness on Social Networks: A Case Study of Young Adults on Facebook. In *proc. of the ACM Conference on Computer-Supported Cooperative Work and Social Computing (CSCW)*, 2015.
Acceptance rate for full paper = 28%

S. Park, S. W. Lee, J. Kwak, M. Cha, and B. Jeong. Activities on Facebook Reveal the Depressive State of Users. *Journal of Medical Internet Research (JMIR)*, 15(10):e217, 2013. doi:10.2196/jmir.2718.
Impact Factor = 4.7 **[SCIE]**

K. Park, J. Park, **S. Park**, J. Kim, S. Kwon, J. Kwak, and M. Cha. Voice of the Employees Resonated in Online Bamboo Forests. In *proc. of the AAAI ICWSM Workshop on Social Computing for Workforce 2.0*, 2013. (Short paper)

PATENTS

S. Park, S. W. Lee, and J. Won. Method and apparatus for providing insomnia intervention service, South Korea, Patent No. 10-2141804 — July 31, 2020

J. Park and **S. Park**. Mobile taxi-pooling service companion recommendation method and device using trust networks, South Korea, Patent No. 10-1813779 — December 22, 2017

J. Park and **S. Park**. Mobile taxi-pooling service charging method and device, South Korea, Patent No. 10-1813780 — December 22, 2017

INVITED TALKS

How to survive in the age of convergence research, Seoul, South Korea — December 15, 2022
- Ada Workshop at the Korea AI Summit 2022

Successfully entering the ride-sharing industry: focusing on infrastructure development and service operation, Uiwang, South Korea — June 13, 2017
- Hyundai Motor Group

Facebook activities reveal the depressive states of users, Daegu, South Korea — December 13, 2013
- Daegu Gyeongbuk International Social Network Conference (DISC) 2013

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TEACHING EXPERIENCE

KDI School of Public Policy and Management – AI Ethics — Fall 2024
Kangwon National University 4465024 – Machine Learning — Spring 2024
Kangwon National University 4465011 – Open-source Programming — Fall 2023
Kangwon National University 4465008 – Artificial Intelligence Ethics — Fall 2023
Kangwon National University 4465010 – Data Analysis Programming — Spring 2023
Kangwon National University 4465005 – Artificial Intelligence Convergence Basics — Spring 2023–2024
Kangwon National University 1130004 – Understanding AI (Team-teaching) — Spring–Fall 2023–2024
Gangwon Innovation Platform 4730061 – Medical Deep-learning (Team-teaching) — Spring 2023–2024
Kangwon National University 229010 – Convergence Medical Devices (Team-teaching) — Fall 2022–2023
Kangwon National University 229100 – Research Ethics & Dissertation Writing — Fall 2022
Kangwon National University 1410033 – C Programming — Fall 2022
Kangwon National University 1410037 – Object-oriented Programming — Fall 2022–2023
Kangwon National University 4471010 – Data Structures — Spring 2022
Kangwon National University 1410036 – Programming Basics — Spring 2022–2024
Kangwon National University 1410029 – Introduction to Computers — Spring 2022
KAIST GCT576 – Social Computing (Teaching Assistant) — Fall 2018
KAIST CS564 – Introduction to Big Data Analytics Using R (Teaching Assistant) — Spring 2018
Kangnam University – Youth Career Academy Mentoring: Big Data Expert — January – February 2016
Course for Senior Undergraduate Students (Instructor & Mentor)

PROFESSIONAL EXPERIENCE

Assistant Professor at KDI School, Sejong-city, South Korea — **July 2024 – Present**
- *Master of Data Science for Public Policy and Management (Full-time)*
- Focusing on four research domains: 1) health sciences; 2) public health policy; 3) text/data mining; 4) AI theory

Assistant Professor at Kangwon National University, Chuncheon, South Korea — March 2022 – June 2024
- *Department of Artificial Intelligence Convergence, College of Information Technology (Full-time)*

Senior Researcher at Institute for Basic Science (IBS), Daejeon, South Korea — September 2020 – February 2022
Chief Investigator: Dr. Meeyoung Cha
- *Data Science Group, Center for Mathematical and Computational Sciences (Full-time)*
- Focused on four research domains: 1) mental health; 2) text mining; 3) unsupervised learning; 4) cultural analytics

Research Intern at Nokia Bell Labs, Cambridge, United Kingdom — June – August 2019
Department Head: Dr. Daniele Quercia
- *Social Dynamics Team (Full-time)*
- Developed a smartwatch application that can retrieve health signals and self-reported mood data

Co-founder & Chief Operating Officer at Kaniza Lab Co., Ltd, Seoul, Korea — March 2015 – January 2017
- *Business Operation and Data Analysis Team (Full-time)*
- Launched and managed two mobile-based on-demand platforms on public transportation domains

Research Engineer at Samsung Electronics, Suwon, South Korea — January 2009 – April 2012
Director: Mr. David Yoonwoo Lee
- *Standards Certification Lab. in Business Planning Group at Visual Display Business (Full-time)*
- Dealt with standardization of technical formats on TV and home entertainment products

AWARDS

Research to Mitigate Platform-induced Topic Modeling Bias, — February 2024
Encouragement Award for Undergraduate Students at the Korea Software Congress (KSC) 2023

A Wearable Device-based End-to-end System for Predicting Physiological Well-being, — February 2023
Outstanding Presentation Paper Award at the Korea Software Congress (KSC) 2022

Contrastive Neural Topic Model Using Term Weighting, Outstanding Paper Award — August 2022
at the Conference of Korean Artificial Intelligence Association (CKAIA) 2022

The Sneakers Universe, A digital artwork accepted for the AI × ART contest exhibit — December 2021
held by the National Science Museum of South Korea

TECHNICAL SKILLS

Fluency in quantitative methods: statistics, machine and deep learning, social network analysis, and mobile- and wearable-computing

- Programming: Python, PyTorch, R, JAVA, JavaScript, C, and MATLAB

PROFESSIONAL SERVICES

Major Journal Paper Reviews

- JMIRx-Med, 2021
- Journal of Medical Internet Research (JMIR), 2021
- JMIR Research Protocol, 2021
- EPJ Data Science (EPDS), 2021
- EPJ Data Science (EPDS), 2020
- Journal of Language and Social Psychology (JLSP), 2020

Major Conference Paper Reviews

- ACM International Conference on Web Search and Data Mining (WSDM), 2025
- International AAAI Conference on Web and Social Media (ICWSM), 2025
- International World Wide Web Conference (WWW), 2024
- ACM International Conference on Web Search and Data Mining (WSDM), 2024
- Conference of the European Chapter of the Association for Computational Linguistics (EACL), 2023
- International World Wide Web Conference (WWW), 2023
- ACM International Conference on Web Search and Data Mining (WSDM), 2023
- Conference on Empirical Methods in Natural Language Processing (EMNLP), 2022
- International World Wide Web Conference (WWW), 2022
- International AAAI Conference on Web and Social Media (ICWSM), 2022
- International World Wide Web Conference (WWW), 2021
- International AAAI Conference on Web and Social Media (ICWSM), 2021

REFERENCES

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Associate Professor in School of Computing at KAIST, South Korea
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Daniele Quercia, Ph.D.
Department Head in Social Dynamics at Nokia Bell Labs Cambridge, United Kingdom
Professor in Urban Informatics at King's College London, United Kingdom
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Cheng-Te Li, Ph.D.
Professor of Computer Science and Information Engineering at National Cheng Kung University, Taiwan
Email: chengte@ncku.edu.tw (https://sites.google.com/view/chengteli/)

Bumseok Jeong, M.D., Ph.D.
Professor of Graduate School in Medical Science and Engineering (GSMSE) at KAIST, South Korea
Email: bs.jeong@kaist.ac.kr (https://drshrink.github.io)

Lev Manovich, Ph.D.
Presidential Professor of Computer Science at the City University of New York (CUNY)'s Graduate Center, USA
Email: manovich.lev@gmail.com (http://manovich.net)