

Dr.Eng. Sungkyu Shaun Park

CONTACT INFORMATION	Department of AI Convergence, Kangwon National University 1 Kangwondaehak-gil, Chuncheon, Gangwon State, South Korea, 24341	e-mail: shaun@kangwon.ac.kr homepage: https://www.shaun.kr
RESEARCH INTERESTS	<p>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)</p> <ul style="list-style-type: none"> • Predicting and interpreting the degree of disorders utilizing deep-learning approaches • Discovering users' unique traits driving the disorders • Developing customized mobile intervention applications <p>Google Scholar https://scholar.google.com/citations?user=eXQ8BsMAAAAJ&hl=ko&oi=ao</p>	
EDUCATION	<p>Korea Advanced Institute of Science and Technology (KAIST), Daejeon, South Korea</p> <p><i>Ph.D. in Graduate School of Culture Technology</i> August 2020</p> <ul style="list-style-type: none"> • Thesis Topic: Neural Network-based Learning of Sleep Patterns and Application-driven Interventions • Advisor: Dr. Meeyoung Cha & Dr. Wonjoon Kim <p>Korea Advanced Institute of Science and Technology (KAIST), Daejeon, South Korea</p> <p><i>M.S. in Graduate School of Web Science Technology, School of Computing</i> August 2014</p> <ul style="list-style-type: none"> • Thesis Topic: Exploring Depressive Moods through the Lens of Online Social Behaviors • Advisor: Dr. Meeyoung Cha <p>Sungkyunkwan University (SKKU), Suwon, South Korea</p> <p><i>B.S. in Information and Communication Engineering</i> February 2009</p>	
SELECTED PUBLICATIONS	<p>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. <i>Sleep</i>, zsad266, 2023. doi:10.1093/sleep/zsad266. <i>Impact Factor</i> = 6.313 [SCIE]</p> <p>S. Park, A. Zhunis, M. Constantinides, L. M. Aiello, D. Quercia, and M. Cha. Social Dimensions Impact Individual Sleep Quantity and Quality. <i>Scientific Reports</i>, 13(1):1-11, 2023. doi:10.1038/s41598-023-36762-5. <i>Impact Factor</i> = 4.6 [SCIE]</p> <p>S. Han, M. Shin, S. Park, C. Jung, and M. Cha. Unified Neural Topic Model via Contrastive Learning and Term Weighting. In <i>proc. of European Association for Computational Linguistics 2023 (EACL)</i>, 2023. doi:10.18653/v1/2023.eacl-main.132. <i>Acceptance rate for the main conference</i> = 24.1%</p> <p>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. <i>Journal of the Korean Society of Biological Therapies in Psychiatry</i>, 28(2):74-82, 2022. (Paper in Korean)</p> <p>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 <i>proc. of the 8th International Conference on Computational Social Science (IC²S²)</i>, 2022. (Extended Abstract, Presented at the poster session)</p> <p>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 <i>proc. of The Web Conference 2022 (WWW)</i>, 2022. doi:10.1145/3485447.3512017. <i>Acceptance rate for full paper</i> = 17.7% [BEST PAPER CANDIDATE (Top 3.4% of the accepted papers)]</p>	

- 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 7th International Conference on Computational Social Science (IC²S²)*, 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* \approx 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

TEACHING EXPERIENCE	<p>Kangwon National University 4465024 – Machine Learning Spring 2024</p> <p>Kangwon National University 4465011 – Open-source Programming Fall 2023</p> <p>Kangwon National University 4465008 – Artificial Intelligence Ethics Fall 2023</p> <p>Kangwon National University 4465010 – Data Analysis Programming Spring 2023</p> <p>Kangwon National University 4465005 – Artificial Intelligence Convergence Basics Spring 2023–2024</p> <p>Kangwon National University 1130004 – Understanding AI (Team-teaching) Spring–Fall 2023–2024</p> <p>Gangwon Innovation Platform 4730061 – Medical Deep-learning (Team-teaching) Spring 2023–2024</p> <p>Kangwon National University 229010 – Convergence Medical Devices (Team-teaching) Fall 2022–2023</p> <p>Kangwon National University 229100 – Research Ethics & Dissertation Writing Fall 2022</p> <p>Kangwon National University 1410033 – C Programming Fall 2022</p> <p>Kangwon National University 1410037 – Object-oriented Programming Fall 2022–2023</p> <p>Kangwon National University 4471010 – Data Structures Spring 2022</p> <p>Kangwon National University 1410036 – Programming Basics Spring 2022–2024</p> <p>Kangwon National University 1410029 – Introduction to Computers Spring 2022</p> <p>KAIST GCT576 – Social Computing (Teaching Assistant) Fall 2018</p> <p>KAIST CS564 – Introduction to Big Data Analytics Using R (Teaching Assistant) Spring 2018</p> <p>Kangnam University – Youth Career Academy Mentoring: Big Data Expert January – February 2016</p> <p>Course for Senior Undergraduate Students (Instructor & Mentor)</p>
PROFESSIONAL EXPERIENCE	<p>Assistant Professor at Kangwon National University, Chuncheon, South Korea March 2022 – Present</p> <ul style="list-style-type: none"> • <i>Department of Artificial Intelligence Convergence, College of Information Technology (Full-time)</i> • Focusing on four research domains: 1) health sciences; 2) text mining; 3) AI theories; 4) cultural analytics <p>Senior Researcher at Institute for Basic Science (IBS), Daejeon, South Korea September 2020 – February 2022 Chief Investigator: Dr. Meeyoung Cha</p> <ul style="list-style-type: none"> • <i>Data Science Group, Center for Mathematical and Computational Sciences (Full-time)</i> • Focused on four research domains: 1) mental health; 2) text mining; 3) unsupervised learning; 4) cultural analytics <p>Research Intern at Nokia Bell Labs, Cambridge, United Kingdom June – August 2019 Department Head: Dr. Daniele Quercia</p> <ul style="list-style-type: none"> • <i>Social Dynamics Team (Full-time)</i> • Developed a smartwatch application that can retrieve health signals and self-reported mood data <p>Co-founder & Chief Operating Officer at Kaniza Lab Co., Ltd, Seoul, Korea March 2015 – January 2017</p> <ul style="list-style-type: none"> • <i>Business Operation and Data Analysis Team (Full-time)</i> • Launched and managed two mobile-based on-demand platforms on public transportation domains <p>Research Engineer at Samsung Electronics, Suwon, South Korea January 2009 – April 2012 Director: Mr. David Yoonwoo Lee</p> <ul style="list-style-type: none"> • <i>Standards Certification Lab. in Business Planning Group at Visual Display Business (Full-time)</i> • Dealt with standardization of technical formats on TV and home entertainment products
AWARDS	<p>Research to Mitigate Platform-induced Topic Modeling Bias, February 2024 Encouragement Award for Undergraduate Students at the Korea Software Congress (KSC) 2023</p> <p>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</p> <p>Contrastive Neural Topic Model Using Term Weighting, Outstanding Paper Award August 2022 at the Conference of Korean Artificial Intelligence Association (CKAIA) 2022</p> <p>The Sneakers Universe, A digital artwork accepted for the AI × ART contest exhibit December 2021 held by the National Science Museum of South Korea</p>

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

- 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 **Meeyoung Cha, Ph.D.**
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