

# Dr.Eng. Sungkyu Shaun Park

CONTACT INFORMATION	Department of AI Convergence, Kangwon National University      e-mail: shaun@kangwon.ac.kr 1, Kangwondaehak-gil, Chuncheon, Gangwon-do, South Korea, 24341      homepage: <a href="http://shaun.kr">http://shaun.kr</a>
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) <ul style="list-style-type: none"> <li>• Predicting and interpreting the degree of disorders utilizing deep-learning approaches</li> <li>• Discovering users' unique traits driving the disorders</li> <li>• Developing customized mobile intervention applications</li> </ul> <b>Google Scholar</b> <a href="https://scholar.google.com/citations?user=eXQ8BsMAAAAJ&amp;hl=ko&amp;oi=ao">https://scholar.google.com/citations?user=eXQ8BsMAAAAJ&amp;hl=ko&amp;oi=ao</a>
EDUCATION	<p><b>Korea Advanced Institute of Science and Technology (KAIST)</b>, Daejeon, South Korea</p> <p><i>Ph.D. in Graduate School of Culture Technology</i> <span style="float:right">August 2020</span></p> <ul style="list-style-type: none"> <li>• Thesis Topic: Neural Network-based Learning of Sleep Patterns and Application-driven Interventions</li> <li>• Advisor: Dr. Meeyoung Cha &amp; Dr. Wonjoon Kim</li> </ul> <p><b>Korea Advanced Institute of Science and Technology (KAIST)</b>, Daejeon, South Korea</p> <p><i>M.S. in Graduate School of Web Science Technology, School of Computing</i> <span style="float:right">August 2014</span></p> <ul style="list-style-type: none"> <li>• Thesis Topic: Exploring Depressive Moods through the Lens of Online Social Behaviors</li> <li>• Advisor: Dr. Meeyoung Cha</li> </ul> <p><b>Sungkyunkwan University (SKKU)</b>, Suwon, South Korea</p> <p><i>B.S. in Information and Communication Engineering</i> <span style="float:right">February 2009</span></p>
SELECTED PUBLICATIONS	<p>M. S. Kim, <b>S. Park</b>, 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><b>S. Park</b>, 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 8<sup>th</sup> International Conference on Computational Social Science (IC<sup>2</sup>S<sup>2</sup>)</i>, 2022. (Extended Abstract, Presented at the poster session)</p> <p><b>S. Park</b>, 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 = 17.7%</i>  <b>[BEST PAPER CANDIDATE (Top 3.4% of the accepted papers)]</b></p> <p><b>S. Park</b>, 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 <i>proc. of the 7<sup>th</sup> International Conference on Computational Social Science (IC<sup>2</sup>S<sup>2</sup>)</i>, 2021. (Extended Abstract)</p> <p><b>S. Park</b>, 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. <i>Journal of Medical Internet Research (JMIR)</i>, 03/03/2021:23272, 2021. doi:10.2196/23272. <i>Impact Factor = 5.03 [SCIE]</i></p>

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)*, accepted for the publication, 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

**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

**Kangwon National University** 4471010 – Data Structures Spring 2022

**Kangwon National University** 1410036 – JAVA Programming Spring 2022

**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	<b>Assistant Professor</b> at Kangwon National University, Chuncheon, South Korea <b>March 2022 – Present</b> <ul style="list-style-type: none"> <li><i>Department of Artificial Intelligence Convergence, College of Information Technology (Full-time)</i></li> <li>Focusing on four research domains: 1) health sciences; 2) text mining; 3) AI theories; 4) cultural analytics</li> </ul>
	<b>Postdoctoral Fellowship</b> at Institute for Basic Science (IBS), Daejeon, South Korea September 2020 – February 2022 Chief Investigator: Dr. Meeyoung Cha <ul style="list-style-type: none"> <li><i>Data Science Group, Center for Mathematical and Computational Sciences (Full-time)</i></li> <li>Focused on four research domains: 1) mental health; 2) text mining; 3) unsupervised learning; 4) cultural analytics</li> </ul>
	<b>Research Intern</b> at Nokia Bell Labs, Cambridge, United Kingdom June – August 2019 Department Head: Dr. Daniele Quercia <ul style="list-style-type: none"> <li><i>Social Dynamics Team (Full-time)</i></li> <li>Developed a smartwatch application that can retrieve health signals and self-reported mood data</li> </ul>
	<b>Co-founder &amp; Chief Operating Officer</b> at Kaniza Lab Co., Ltd, Seoul, Korea March 2015 – January 2017 <ul style="list-style-type: none"> <li><i>Business Operation and Data Analysis Team (Full-time)</i></li> <li>Launched and managed two mobile-based on-demand platforms on public transportation domains</li> </ul>
	<b>Research Engineer</b> at Samsung Electronics, Suwon, South Korea January 2009 – April 2012 Director: Mr. David Yoonwoo Lee <ul style="list-style-type: none"> <li><i>Standards Certification Lab. in Business Planning Group at Visual Display Business (Full-time)</i></li> <li>Dealt with standardization of technical formats on TV and home entertainment products</li> </ul>
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
AWARDS	<b>Contrastive Neural Topic Model Using Term Weighting</b> , Outstanding Paper Award August 2022 at the Conference of Korean Artificial Intelligence Association (CKAIA) 2022
	<b>The sneakers universe</b> , A digital artwork accepted for the AI × ART contest exhibit December 2021 held by National Science Museum of South Korea
PROFESSIONAL SERVICES	<b>Major Journal Paper Reviews</b> <ul style="list-style-type: none"> <li>JMIRx-Med, 2021</li> <li>Journal of Medical Internet Research (JMIR), 2021</li> <li>JMIR Research Protocol, 2021</li> <li>EPJ Data Science (EPDS), 2021</li> <li>Sensors, 2021</li> <li>EPJ Data Science (EPDS), 2020</li> <li>Journal of Language and Social Psychology (JLSP), 2020</li> <li>Systems, 2020</li> </ul> <b>Major Conference Paper Reviews</b> <ul style="list-style-type: none"> <li>ACM International Conference on Web Search and Data Mining (WSDM), 2023</li> <li>Conference on Empirical Methods in Natural Language Processing (EMNLP), 2022</li> <li>International World Wide Web Conference (WWW), 2022</li> <li>International AAAI Conference on Web and Social Media (ICWSM), 2022</li> <li>International World Wide Web Conference (WWW), 2021</li> <li>International AAAI Conference on Web and Social Media (ICWSM), 2021</li> </ul>

## REFERENCES

### **Meeyoung Cha, Ph.D.**

*Chief Investigator (CI)* in Data Science Group at Institute for Basic Science (IBS), South Korea

*Associate Professor* in School of Computing at KAIST, South Korea

Email: mcha@ibs.re.kr (<https://ds.ibs.re.kr/ci>)

### **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.**

*Associate Professor* in Institute of Data Science at National Cheng Kung University, Taiwan

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### **Bumseok Jeong, M.D., Ph.D.**

*Professor* of Graduate School in Medical Science and Engineering (GSMSE) at KAIST, Korea

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### **Sang Won Lee, M.D., Ph.D.**

*Assistant Professor* of Department of Psychiatry at Kyungpook National University Chilgok Hospital, Korea

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