Juhyeon Park

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RESEARCH INTERESTS

Urban Analytics; Urban Sensing Technologies; Geospatial Big Data Analytics; Human Mobility; Data Mining/Visualization; Smart Cities

EDUCATION

Ulsan National Institute of Science and Technology (UNIST), Ulsan, Republic of Korea

- Ph.D. in Urban and Environmental Engineering — 2022
  - Dissertation | Measuring Public Life Through Digital Technologies: Investigating the Use of WiFi Sensing for Enhancing Public Space
  - Advisor: Professor Jeongseob Kim
- B.S. in Urban and Environmental Engineering — 2015

ACADEMIC & PROFESSIONAL EXPERIENCE

- **Postdoctoral Fellow**, Department of Urban and Environmental Engineering, Ulsan National Institute of Science and Technology — 2022-2023
- **Research Fellow,** Department of Future Strategies Research, Gyeongbuk Development Institute — 2023-present

PUBLICATION

Park, J., & Kim, J. (2019). Economic impacts of a linear urban park on local businesses: The case of Gyeongui Line Forest Park in Seoul. *Landscape and Urban Planning*, 181, 139-147.

Park, J., & Kim, J. (2018). Defining heatwave thresholds using an inductive machine learning approach. *Plos one*, 13(11), e0206872.

Yoon, D. K., Kang, J. E., & **Park, J**. (2017). Exploring environmental inequity in South Korea: An analysis of the distribution of toxic release inventory (TRI) facilities and toxic releases. *Sustainability*, 9(10), 1886.

PAPERS IN PROGRESS

Park, J., & Kim, J. *Understanding Cities with Digital Traces: A Toolkit of WiFi Sensing Technologies for Urban Analytics*. Journal target: Environment and Planning B: Urban Analytics and City Science

Park, J., & Kim, J. *Using WiFi Data to Detect Stay Points in Urban Public Spaces* Journal target: IEEE Internet of Things Journal

Park, J., & Kim, *Evaluating WiFi sensors for the Measurement of Public Life: Building Real-World Applications*. Journal target: Computers, Environment and Urban Systems

GRANT AND AWARDS

- **Postdoctoral Fellowship,** National Research Foundation of Korea (NRF) ($45,000/year, period: 2 years) — 2022

- **First Prize**, The 1st Big Data Competition for Commercial Area Analysis, Seoul Credit Guarantee Foundation 2017
- **Excellence Award**, The 5th Seoul Research Competition, Seoul Institute, Seoul Metropolitan Government
- **Excellence Award**, The 4th Seoul Research Competition, Seoul Institute and Seoul. Metropolitan Government 2016

PATENTS

Kim, J., & **Park, J.** (2020). *Pedestrian characteristic analysis system using WiFi sensing data and pedestrian characteristic analysis method using the same* (Korea Patent Application No.10-2020-0186549). Korean Intellectual Property Office

Kim, J., **Park, J.**, Choi, D., & Yoon, S. (2019). *Method and computer-readable recording medium for measuring survival rate and sales of commercial area* (Korea Patent No. 10-1990799). Korean Intellectual Property Office

CONFERENCE PRESENTATION

- International Conference
  - Using WiFi sensing technologies to determine the pedestrians' behaviors and trajectories in urban public spaces, *WPCS-APSA Congress* 2022
  - Leveraging Online Review Data to Support Efficient Urban Park Planning and Management: A Multi-sensory Approach, *IAG'I International Symposium*
  - Identifying and Measuring Staying Activities in Urban Public Space Through WiFi Sensing Technology, *Association of Collegiate Schools of Planning (ACSP) Conference* 2021
  - Evaluating the Use of WiFi Data For Understanding Pedestrian Behavior in Urban Public Space, *The 2nd ZHITU Symposium on Advances in Civil Engineering*
  - Analysis of Human Mobility Patterns Using WiFi sensing Technology: A Case Study of a University Campus, *Association of Collegiate Schools of Planning (ACSP) Conference* 2020
  - Stationary Activity Mapping on a University Campus Using WiFi Sensing Technology, *Open Seminar at International Journal of Urban Sciences*
  - Investigating Urban Pedestrian Mobility using Wi-Fi and Bluetooth Data: A Preliminary Study, *Association of Collegiate Schools of Planning (ACSP) Conference* 2019
  - Investigating Urban Pedestrian Mobility using Wi-Fi and Bluetooth Data: A Preliminary Study, *Asian Planning Schools Association (APSA) conference*
  - Generating High-resolution Pedestrian Trajectories Based on Wi-Fi and Bluetooth Tracking in urban Outdoor Space: A Preliminary Analysis, *Transportation Research Board (TRB)*

- Retail and Residential Displacement by Environmental Gentrification, *Association of Collegiate Schools of Planning (ACSP) Conference* 2018
- Exploring park-induced changes in retail business in gentrifying communities: The case of Gyeongui Line Forest Park, Seoul, Korea, *Urban Affairs Association (UAA) Conference*

■ Domestic Conference

- Measuring Public Life Through Digital Technologies: Investigating the Use of WiFi Sensing for Enhancing Public Space, *Spring Congress of Urban Design Institute of Korea* 2022
- Measuring Public Life Through Digital Technologies: Investigating the Use of WiFi Sensing for Enhancing Public Space, *Spring Congress of Korea Planning Association*
- Analysis of pedestrian behavior in urban public spaces using Wi-Fi sensing technology. *Fall Congress of Korea Planning Association* 2021
- Exploring pedestrian behavior in urban areas using Wi-Fi sensing technology, *Korea Association of Geographic Information Studies Conference*
- Analysis of pedestrian movement trajectories using WiFi sensing technology in the case of a university campus, *Fall Congress of Korea Planning Association* 2020
- Analysis of University student's behavior in a campus using WiFi sensing technology, *Spring Congress of Korea Planning Association*
- Analysis of walking behavior and outdoor activities in urban public spaces Using WiFi sensing, *Korea Association of Geographic Information Studies Conference*
- Analysis of pedestrian behavior using Wi-Fi and Bluetooth sensors, *Fall Congress of Korea Planning Association* 2019

RESEARCH & EDUCATIONAL EXPERIENCE

■ **Ulsan National Institute of Science and Technology (UNIST)**, Ulsan, Republic of Korea

■ **Postdoctoral Fellow** in Urban and Environmental Engineering 2022 -

- Development of Pedestrian Behavior and Spillover Effect Estimation Model Based on Smart Technology and Spatial Econometric Model: Focused on the Business Area Revitalization Project, National Research Foundation of Korea (NRF), PI: Juhyeon Park
- Prediction of users' behaviors in commercial streets based on sensory perception of places and WiFi sensing, funded by National Research Foundation of Korea (NRF), PI: Professor Jeongseob Kim

■ **Graduate Research Assistant** 2015-2022

- Pedestrian volume modeling using a WiFi sensing system and three-dimensional measurements of street environment, funded by National Research Foundation of Korea (NRF), PI: Professor Jeongseob Kim
- An agent-based simulation model of gentrification for Korean inner cities, funded by National Research Foundation of Korea (NRF),
  PI: Professor Jeongseob Kim
- Evaluation system of school zone safety using multi-agent VR simulator and deep learning, funded by Korea Agency for Infrastructure Technology Advancement (KAIA), PI: Professor Gi-Hyoug Cho

■ **Mentorship**

- Supervised 5 undergraduate students through the Undergraduate Interdisciplinary Research Project (UIRP) in 2020
- Supervised 3 high school students through the UNIST Lab Experience for Creative Achievements (ULECA) In 2017

ADDITIONAL SKILLS R, Python, MySQL, Stata, QGIS, ArcGIS

[*Last update on 2023-11-07*]