**Jiwon Jang**

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# Research Interest

Agent Based Modeling, cyberGIS, cyberInfrastructure, GeoAI, Human Dynamics, Human mobility, Segregation, Spatiotemporal Data Analysis, Social Media, Social Sensing, Social Stratification, Spatial Statistics

# Education

**Master of Engineering, Major in Social Network Science (**GPA: 4.23/4.3)Aug. 2018 – Aug. 2020

Kyung Hee University, Seoul, Korea

Dissertation: Predicting human behavior patterns using user-generated content : Deep reinforcement learning approach (Advisor: Dr.Jin-mu Choi)

**Bachelor of Sociology, Major in Sociology** (GPA: 3.72/4.5)Mar. 2016 – Aug. 2018

Kyung Hee University, Seoul, Korea

Thesis: A Study on the University Students' News Usage Patterns using Social Network Analysis

**Bachelor of Arts, Major in English Language and Literature** (GPA: 3.62/4.5)Mar. 2012 – Feb. 2016

Yeungnam University, Gyeongsan-si, Gyeongsangbuk-do, Korea

* Transfer to Kyung Hee University

# Academic Publications

**Jang, J**., Kim, M., Choi, J., (2020), “A Study on the Relationship between Foot Traffic and Instagram Contents Using Spatial Panel Model”, *Korea Society for Geospatial Information Science* (Accepted, KCI) [[Korean with English abstract](https://github.com/geoai-rl/geoai-rl.github.io/blob/main/spatialpanel_instagram_1023.pdf)]

**Jang, J.**, (2020). “Predicting human behavior patterns using user-generated content : Deep reinforcement learning approach”, ME dissertation, Kyung Hee University, Seoul. <https://url.kr/AamGLj>

(In progress) **Jang, J**., Choi, J. (2020) [Predicting human mobility using Instagram user generated contents : Deep reinforcement learning approach](https://geoai-rl.github.io/itaewon/Itaewon-Contents-Map/)

# Research Experience

**Research Assistant, Spatial Analysis Lab, Kyung Hee University**

Development of Disaster Information System Apr. 2019– Aug. 2020

National Disaster Management Research Institute, Korea

* Developed algorithm to solve optimized evacuation paths and routing problems during disaster situations using spatial network analysis and deep reinforcement learning algorithm
* Used the python network analysis package (Networkx) and deep learning frameworks (Tensorflow, Keras)

A Study on the Correlation between Urban Land Cover and PM2.5 Distribution Jul. 2019– Aug. 2020

National Research Foundation of Korea

* Analyzed the correlation between Urban land cover and PM2.5 using spatial statistics (Spatial Regression, GWR, Dynamic Linear model)
* Used statistical software (SPSS, STATA, Geoda) and statistical language R

A Study on the Countermeasure of International Standardization of AddressMay 2019– Dec. 2019

Ministry of the Interior and Safety, Korea

* Proposed Korean address system to the International Organization for Standardization (ISO) so that the system can be reflected in international standard documents ; Collected and managed data

**Research Assistant, AI & BM Lab, Kyung Hee University**

Verification of Data Business Model for Artificial Intelligence HomeAppliancesOct. 2018– Jul. 2019

LG Display Corporate, Korea

* Designed a new business model using data from LG home appliances and developed deep learning-based recommendation systems to improve customer experience
* Developed recommendation system using the python deep learning frameworks (Tensorflow, Keras)

AI-based Youth Innovator Training Course Aug. 2018– Feb. 2019

Institute of Information & Communications Technology Planning & Evaluation, Korea

* Planned the education curriculum for human resources development in artificial intelligence fields and participated as a mentor for students in statistics and reinforcement learning education

**Research Assistant, Korean General Social Survey (KGSS*)***

Survey Research Center, Sungkyunkwan University Jul. 2016– Sep. 2016

* KGSS is the Korean version of the general social survey developed by the University of Chicago ; Conducted on-site surveys to build panel data

# Conference Presentations

**Oral Presentation**

**Jang, J.**, Lee, H., Choi, J., (2020), Predicting Foot traffic in Itaewon commercial district using reinforcement learning, *Korea Spatial Information Society*, Online, South Korea

**Jang, J.**, Ham, J., Lee, Y., Hwang, S., Choi, J., (2019), Analysis of Concentration Characteristics on the Feeling of Fine Dust, *2019 Annual Meeting of Korean Geographer*, Seoul, South Korea

**Poster Presentation**

**Jang, J.**, Choi, J., (2019), A Study on the Relationship between Foot Traffic and Instagram Contents Using Spatial Panel Model, *Conference on the Korean Association of Geographic Information Studies*, Jeju, South Korea

# Work Experience

**TEACHING ASSISTANT**

*Lecturer,* Python Programming Course Feb. 2020– Feb. 2020

The student council of graduate schools, Kyung Hee University

* Taught introductory Python programming lectures and techniques for collecting online data using multiple web crawlers

**Hankook Research**, Internship, Korea.Jul. 2017– Aug. 2017

* Designed surveys for public opinion polls and analyzed survey results using SPSS and STATA

*Founder* Jul. 2016– Dec. 2016

**Sharing Kitchen,** Social venture project, funded by Seoul Community Service Center

* Secured funding for the social venture project to relieve loneliness among the elderly in poverty and managed project budget
* Designed a local community platform for the youth and the elderly to relieve the loneliness of the elderly living alone

**Military Experience,** Republic of Korea Army

53rd Division, 2nd Battalion Jul. 2016– Dec. 2016

Honorable Discharge, as Sergeant, 1s Squad, 1st Platoon, 5rd Company

* Squad Leader / Company TOD (Thermal Observation Device) operator ; selected as the best trainee in the training camp

# Leadership and Service

*Program Director,* Student board of graduate schools Feb. 2019– Aug. 2020

Graduate School of Kyung Hee University

* Planned scholarship programs for graduate students to promote participation in overseas academic conferences
* Designed projects to support graduate students’ research such as statistics and programming lectures

*Graduate Student Representative*, Council of Kyung Hee UniversityJun. 2019– Feb. 2020

Kyung Hee University

* Represented graduate students’ opinions regarding the university president election as a graduate student representative
* Collected graduate students’ opinions to improve research environment and represented graduate students’ opinions to the university representatives

*Program Director,* Student Council of Central Library, Kyung Hee UniversitySep. 2017– Aug. 2018

Kyung Hee University

* Designed the program to improve library environment for students' convenience

# Awards and Scholarship

**Awards**

The winner of excellent paper, 2nd GoHwang Scholar Poster Conference, Korea Sep. 2020

The winner of excellent paper, Korea Spatial Information Society, Korea Jun. 2020

* Title: Predicting Foot traffic in Itaewon commercial district using reinforcement learning

University President’s Recommendation for the excellent research project, Kyung Hee University, Korea Spring. 2018

* Title: A Study on the University Students' News Usage Patterns using Social Network Analysis

**Scholarship**

Exemplary Scholarship, Kyung Hee University, Korea 2019-20(2rd-4th semesters)

* Graduate school representative scholarship (3 semesters); full tuition

Research Assistant Scholarship, Kyung Hee University, Korea Fall 2018

Transformative age 21 Scholarship, Kyung Hee University, Korea Spring 2018

* Research scholarship for independent research

Bright Society Scholarship, Kyung Hee University, Korea 2017-18(3rd-4rd semesters)

* Student council of central library scholarship

Mosaic Scholarship, Kyung Hee University, Korea 2017-18(3rd-4rd semesters)

International Training Program, Kyung Hee University, Korea Fall 2016

National Scholarship, Korea Student Aid Foundation, Korea Fall 2015

Merit-based Scholarship, Yeungnam University, Korea Fall 2013

Handicapped Student Helper Scholarship, Yeungnam University, Korea Spring 2013

# Technical Skills

Programming languages : python, SQL(mysql, nosql), HTML

GIS : QGIS, Geoda

Statistics : SPSS, STATA, R

Agent-Based Model : Anylogic, Netlogo

Other : Linux(ubuntu server), AWS, Mac OS, Windows, Gephi,

# References

**Prof. Jinmu Choi, PhD.**

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**Prof. Yoonjae Nam, PhD.**

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**Prof. SoonHyung Yook, PhD.**

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