# Jinwoo Park, Ph.D.
# Curriculum Vitae

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## EDUCATION

**Ph.D.**, Department of Geography, Texas A&M University, College Station, TX, USA   2021
  Dissertation Title: Advancing Spatial Accessibility Measurements to Urban Infrastructure: Uncovering Temporal Dynamics and Uncertainty

**M.S.**, Department of Geography, Kyung Hee University, Seoul, Korea   2016
  Thesis Title: Comparison of Address Coordinates with the Change in Korean Address System

**B.S.**, Department of Geography, Kyung Hee University, Seoul, Korea   2013

## PROFESSIONAL APPOINTMENTS AND EXPERIENCES

**Assistant Professor**   Aug 2023–Present
  Department of Geography and Geographic Information Science,
  University of North Dakota, Grand Forks, ND, USA.

**Postdoctoral Research Associate**   2022–2023
  CyberGIS Center for Advanced Digital and Spatial Studies,
  University of Illinois Urbana-Champaign, Urbana, IL, USA.

**Graduate Assistant**   2018–2021
  Division of Information Technology, Texas A&M University, College Station, TX, USA.

**Teaching Assistant**   2017
  Department of Geography, Texas A&M University, College Station, TX, USA.

**Administrative Staff**   2016–2017
  Department of Geography, Kyung Hee University, Seoul, Korea.

**Software Engineer**   2014–2017
  Spatiotemporal Big Data Center, Kyung Hee University, Seoul, Korea.

**Research Assistant**   2014–2016
  Spatial Analysis Lab, Kyung Hee University, Seoul, Korea.

**Researcher & Software Engineer**   2012–2014
  IMU Korea (Intergraph Mapping & Utilities Korea Ltd.), Seongnam, Gyeonggi, Korea.

## AWARDS AND HONORS

**Teachers Ranked as Excellent by Their Students**,   2022
  Center for Innovation in Teaching & Learning, University of Illinois Urbana-Champaign.

**Honorable Mention**, Paper Awards, 2021
  University Consortium for Geographic Information Science (UCGIS) Symposium, Virtual.

**Finalist**, Student Honors Paper Competition, 2021
  Geographic Information Science and Systems Specialty Group, The Annual Meeting of
  the American Association of Geographers, Virtual.

**First place**, Paper Award, 2021
  Korean-American Association for Geospatial and Environmental Sciences.

**First place**, Graduate Student Research Competition, Texas GIS Day 2020, Virtual. 2020

**Second place**, Competition for Optimizing Bicycle-Sharing System Locations, 2020
  Korea Land & Housing Corporation.

**First place**, Paper Competition, 2019
  Texas A&M University GIS Day 2019, College Station, TX.

**First place**, Summer School Group Competition, 2019
  American Association of Geographers - University Consortium for Geographic Information
  Science (AAG-UCGIS) Summer School 2019, Urbana, IL.

**Student leadership award**, 2019
  Korean-American Association for Geospatial and Environmental Sciences.

**Second place**, Graduate Geoscience Oral Presentation, 2019
  22nd Annual Student Research Week, Texas A&M University, College Station, TX.

**First place**, Outstanding Paper Awards, 2015
  The 10th China-Japan-Korea Joint Conference & 1st Asian Conference on Geography,
  Shanghai, China.

**Bronze medal**, Seoul Institute Thesis Competition, The Seoul Institute, Seoul, Korea. 2015

**First place**, Student Poster Competition, 2014
  Annual Meeting of Korean Geographers, Seoul, Korea.

**Bronze medal**, Student Poster Competition, 2010
  Annual Meeting of the Korean Geographical Society, Seoul, Korea.

## PEER-REVIEWED PUBLICATIONS

Underline: Corresponding Author

**Journal Articles**

[19] **Park, J.**, Wang, S, Flint, C., Lall, U., Kalyanam, R. & Lyu, F. (Under review). Socioeco-
  nomic characteristics of at-risk populations impacted by the aging dam infrastructure in
  the USA - Who is facing the risk of potential dam failures? *Nature Sustainability*.

[18] **Park, J.**, Lyu, F., Michels, A., Zhang, I. & Wang, S. (Under review). Customized Decision-making Supports per Characteristics of Accessibility using Sequence Analysis. *Computers, Environment and Urban Systems*.

[17] Javanmard, R., Lee, J, Kim, K., **Park, J** & Diab, E. (In revision). Evaluating the impacts of supply-demand dynamics and distance decay effects on public transit project assessment: A study of healthcare accessibility and inequalities. *Journal of Transport Geography*.

[16] Michels, A., **Park, J.**, Kang, J.-Y. & Wang, S. (In revision). SPACTS: a spatial partitioning algorithm for computing travel-time at scale. *International Journal of Geographical Information Science*.

[15] Lyu, F., Zhou, L., **Park, J.**, Baig, F. & Wang, S. (In revision). Mapping real-time heat exposure with location-based social media data. *International Journal of Geographical Information Science*.

[14] Cho, M. S. & **Park, J.**. (2024). Spatiotemporal lake area changes influenced by climate change over 40 years in the Korean Peninsula. *Scientific Reports*, *14*(1144). https://doi.org/10.1038/s41598-023-51084-2

[13] Han, S. Y., Kang, J.-Y., Lyu, F., Baig, F., **Park, J.**, Smilovsky, D. & Wang, S. (2023). A cyberGIS approach to exploring neighborhood-level social vulnerability for disaster risk management. *Transactions in GIS*, *27*(7), 1942–1958. https://doi.org/10.1111/tgis.13106

[12] Kang, J.-Y., Wong, S., **Park, J.**, Lee, J. & Aldstadt, J. (2023). Exploring spatial mismatch between the primary care and the elderly populations in an aging country: a case study of South Korea. *ISPRS International Journal of Geo-Information*, *12*(7). https://doi.org/10.3390/ijgi12070255

[11] **Park, J.**, Michels, A., Lyu, F., Han, S. & Wang, S. (2023). Daily changes in spatial accessibility to ICU beds and their relationship with the case-fatality ratio of COVID-19 in the state of Texas, USA. *Applied Geography*, *154*, 102929. https://doi.org/10.1016/j.apgeog.2023.102929

[10] **Park, J.** & Goldberg, D. W. (2023). An examination of the stochastic distribution of spatial accessibility to intensive care unit beds during the COVID-19 pandemic: a case study of the Greater Houston area of Texas. *Geographical Analysis*, *55*(3), 384–398. https://doi.org/10.1111/gean.12340

[9] Choi, M., **Park, J.** & Ji, S. (2022). Risk assessments of crowds at bottlenecks through Agent Based Modelling. *Journal of the Korean Geographical Society*, *57*(6), 595–609. https://doi.org/10.22776/kgs.2022.57.6.595

[8] **Park, J.**, Kang, J.-Y., Goldberg, D. W. & Hammond, T. A. (2022). Leveraging temporal changes of spatial accessibility measurements for better policy implications: a case study of electric vehicle (EV) charging stations in Seoul, South Korea. *International Journal of Geographical Information Science*, *36*(6), 1185–1204. https://doi.org/10.1080/13658816.2021.1978450

[7] **Park, J.** & Goldberg, D. W. (2021). A review of recent spatial accessibility studies that benefitted from advanced geospatial information: Multimodal transportation and spatiotemporal disaggregation. *ISPRS International Journal of Geo-Information*, *10*(8). https://doi.org/10.3390/ijgi10080532

[6]  Kang, J.-Y. & **Park, J**. (2021). Measuring spatial accessibility to COVID-19 testing sites: a case study of Seoul. *Journal of the Korean Geographical Society*, *56*(2), 231–244. https://doi.org/10.22776/kgs.2021.56.2.231

[5]  **Park, J.**, Choi, M. & Kang, J.-Y. (2021). Spatial optimization of indoor sports stadium seats under social distancing practice during the COVID-19 pandemic. *Journal of the Korean Geographical Society*, *56*(1), 53–66. https://doi.org/10.22776/kgs.2021.56.1.53

[4]  **Park, J.**, Goldberg, D. W. & Hammond, T. (2020). A comparison of network model creation algorithms based on the quality of wayfinding results. *Transactions in GIS*, *24*(3), 602–622. https://doi.org/10.1111/tgis.12632

[3]  **Park, J.**, Park, J. & Choi, J. (2018). An air pollution exposure on floating population using air pollution dispersion model. *The Geographical Journal of Korea*, *52*(2), 193–204.

[2]  Do, M. S., Lee, J., Jang, H., Kim, D., **Park, J** & Yoo, J. (2017). Spatial distribution patterns and prediction of hotspot area for endangered herpetofauna species in Korea. *Korean Journal of Environment and Ecology, 31*(4), 381–396.

[1]  **Park, J.**, Choi, J. & Hong, S.Y. (2016). Comparison between the road-based and the parcel-based address coordinates for urban air pollution estimation - a case study of Yeongdeungpo-gu, Seoul, Korea. *Journal of Cadastre & Land InformatiX*, *46*(2), 169–181.

## Conference Proceedings

[4]  Haqiqi, I, Hu, W., Kumaran, R., Li, P.-C., Manning, N., Michels, A., Nassar, A., **Park, J.**, Shi, J., Tonks, A. & Wang, Z. (2023). I-GUIDE Climbers: a model for multidisciplinary academic labs for early career development. *I-GUIDE Forum 2023 - Harnessing the Geospatial Data REvolution for Sustainability Solutions*. https://docs.lib.purdue.edu/cgi/viewcontent.cgi?article=1018&context=iguide

[3]  Michels, A., **Park, J.**, Li, B., Kang, J.-Y. & Wang, S. (2023). Impacts of Catchments Derived from Fine-Grained Mobility Data on Spatial Accessibility. In R. Beecham, J. A. Long, D. Smith, Q. Zhao & S. Wise (Eds.), *12th international conference on geographic information science (giscience 2023)* (52:1–52:6). Schloss Dagstuhl – Leibniz-Zentrum für Informatik. https://drops.dagstuhl.de/opus/volltexte/2023/18947
Keywords: Spatial accessibility, alpha shape, convex hull, cyberGIS, social vulnerability

[2]  Lyu, F., Yang, Z., Xiao, Z., Diao, C., **Park, J.** & Wang, S. (2022). CyberGIS for scalable remote sensing data fusion. *Practice and Experience in Advanced Research Computing*. https://doi.org/10.1145/3491418.3535145

[1]  Lee, K., **Park, J** & Choi, J. (2015). A comparison of image aligning and correcting software with an unmanned aerial system. *Free and Open Source Software for Geospatial (FOSS4G) Conference Proceedings*, (1), 48.

## PRESENTATIONS

**Oral Presentations**

[16] Lyu, F., Zhou, L., **Park, J.**, Baig, F. & Wang, S. (2023, March 23–27). *Mapping Real-time Heat Exposure with Social Media Data*. The Annual Meeting of the American Association of Geographers, Denver, CO, USA.

[15] **Park, J.**, Lyu, F., Michels, A. & Wang, S. (2023, March 23–27). *Spatial delineation per longitudinal sequence in dynamic spatial accessibility: a case study of primary care in New York City*. The Annual Meeting of the American Association of Geographers, Denver, CO, USA.

[14] Javanmard, R., Lee, J., **Park, J.** & Kim, K. (2023, March 1). *Leveraging 2SFCA to evaluate the impacts of new public transit services on accessibility considering supply-demand dynamics*. GIS in Education and Research Conference Esri Canada, Toronto, Canada.

[13] **Park, J.** & Goldberg, D. W. (2021, June 7–9). *Measuring spatial accessibility to ICU beds under the uncertainty of supply and mobility*. University Consortium for Geographic Information Science (UCGIS) Symposium 2021, Virtual. Honorable mention in Paper Awards.

[12] **Park, J.**, Kang, J.-Y. & Goldberg, D. W. (2021, April 7–11). *Examining 24-hour fluctuation of spatial accessibility from temporal dynamics in supply, demand, and mobility: a case study of electric vehicle (EV) charging stations in southeast Seoul, the Republic of Korea*. The Annual Meeting of the American Association of Geographers, Virtual. A finalist in AAG-GISS SG Student Honors Paper Competition.

[11] **Park, J.** (2020, November 16–18). *Spatiotemporal dynamics of accessibility: a case study of electric vehicle (EV) charging stations in southeast Seoul, South Korea*. Texas GIS Day 2020, Virtual. Awarded 1st place in Paper Competition.

[10] **Park, J.**, Kang, J.-Y. & Goldberg, D. W. (2020, November 13). *The importance of temporal dynamics for enhancing the accuracy of the spatial accessibility measurement: a case study of EV charging stations in Seoul, South Korea*. the Annual Meeting of the Korean Geographical Society, Virtual.

[9] **Park, J.**, Goldberg, D. W. & Hammond, T. (2020, July 13–16). *Comparisons of network generation algorithms by automated extraction from BIMs*. Esri User Conference, Virtual.

[8] **Park, J.** (2019, November 12). *Comparisons of network generation algorithms by automated extraction from Building Information Modeling*. Texas A&M University GIS Day 2019, College Station, Texas, USA. Awarded 1st place in Paper Competition.

[7] **Park, J.**, Yin, Z. & Goldberg, D. W. (2019, April 2–7). *An automated indoor network extraction from Building Information Modeling*. The Annual Meeting of the American Association of Geographers, Washington, DC, USA.

[6] **Park, J.** (2019, March 18–22). *An automated indoor network extraction from Building Information Modeling*. The 22nd Annual Student Research Week, Texas A&M University, College Station, TX, USA. Awarded 2nd place in the Graduate Geoscience Oral Presentation.

[5] **Park, J.** & Goldberg, D. W. (2019, March 5–8). *An automated indoor network extraction from building information modeling*. 2019 Esri Developer Summit, Palm Springs, CA, USA.

[4] **Park, J.** (2017, October 25–28). *Korea's environmental issues and the national atlas of Korea vol. II*. The Annual Meeting of the Southwest Division of the American Association of Geographers, Huntsville, TX, USA.

[3] **Park, J.** & Choi, J. (2016, March 29–April 2). *Comparison of address locations during the address system transition in Korea*. The Annual Meeting of the American Association of Geographers, San Francisco, CA, USA.

[2] **Park, J.**, Park, J. & Choi, J. (2015, October 9–12). *Estimation of actual exposure to air pollution for floating populations*. The 10th China-Japan-Korea Joint Conference & 1st Asian Conference on Geography, Shanghai, China. Awarded the Winner of Outstanding Paper Award.

[1] **Park, J.**, Choi, D., Na, Y. G., Lee, B. & Choi, J. (2014, July 6–9). *Comparison of road name address and parcel-based address for line source air pollution dispersion*. The 9th Korea-China-Japan Joint Conference on Geography, Busan, Korea.

## Poster Presentations

[7] **Park, J.**, Michels, A., Lyu, F., Han, S. & Wang, S. (2023, Oct 4–6). *Daily changes in spatial accessibility to ICU beds and their relationship with the case-fatality ratio of COVID-19 in the state of Texas, USA*. Minnesota GIS/LIS 33rd Annual Conference, Duluth, MN, USA.

[6] **Park, J.**, Lyu, F., Michels, A. & Wang, S. (2022, Sep 28). *Spatial disaggregation per temporal sequences in dynamic spatial accessibility*. Geo-Resolution 2022, St.Louis, MO, USA.

[5] **Park, J.**, Goldberg, D. W., Lybrand, B. & Meador, J. (2018, April 10–14). *3D visualization of CAD Data for an evacuation plan*. The Annual Meeting of the American Association of Geographers, New Orleans, LA, USA.

[4] Choi, J. & **Park, J.** (2016, March 29–April 2). *Correlation between air pollution dispersion and floating population*. The Annual Meeting of the American Association of Geographers, San Francisco, CA, USA.

[3] Choi, J., **Park, J.** & Lee, K. (2015, April 21–25). *Importance of road name address for line source air pollution dispersion*. The Annual Meeting of the American Association of Geographers, Chicago, IL, USA.

[2] **Park, J.**, Choi, D. & Park, W. (2014, June 20–21). *The validity of the new geocoding system using line source air pollution dispersion model*. The Annual Meeting of the Korean Geographers, Seoul, Korea.

[1] **Park, J.** (2010, May 27–28). *A spatial analysis of the shopping district in front of Kyung Hee University*. The Annual Meeting of the Korean Geographers, Seoul, Korea.

## Invited Presentations, Talks & Panelists

[13] **Panelist**. *Understanding AI and its Capability in Geospatial Research*. KAGES-KGS Ethics Workshop. November 3, 2023. Virtual.

[12] **Panelist**. *Supporting International Students to Thrive in Graduate School and Job Market*. The Annual Meeting of the American Association of Geographers. March 25, 2023. Denver, CO, USA.

[11] **Presentation**. *Advancing Spatial Accessibility Measurements to Urban Infrastructure: Uncovering Temporal Dynamics and Uncertainty*. Department of Geography and GI-Science, University of North Dakota. March 6, 2023. Grand Forks, ND, USA.

[10] **Presentation**. *Advancing Spatial Accessibility Measurements to Urban Infrastructure: Uncovering Temporal Dynamics and Uncertainty*. Department of Geography Education, Dongguk University. January 31, 2023. Virtual.

[9] **Presentation**. *Spatial Accessibility: Various Approaches and Policy Implications*. Department of Geography and Environmental Sustainability, University of Oklahoma. January 25, 2023. Virtual.

[8] **Presentation**. *Smart Mobility in Urban Planning*. School of Urban Planning and Real Estate Studies, Dankook University. December 6, 2022. Yongin-si, Gyeonggi-do, South Korea.

[7] **Talk**. *Indispensable Temporal Dynamics: Enhancing Accuracy of Spatial Accessibility Measurements*. 2022 KHU-UWG Geo-Spatial Workshop. July 21, 2022. Carrollton, GA, USA.

[6] **Presentation**. *Advancing Spatial Accessibility Measurements to Urban Infrastructure: Uncovering Temporal Dynamics and Uncertainty*. KAGES-KHU Bridging Network Seminar. April 1, 2022. Virtual.

[5] **Presentation**. *Measuring spatial accessibility to intensive care unit (ICU) beds under the uncertainty of supply and mobility*. AAG Geospatial Fellows Webinar Series. July 12, 2021. Virtual.

[4] **Presentation**. *The domain expansion of spatial accessibility*. Young Korean Geographers Forum II, Korean-American Association for Geospatial and Environmental Sciences. April 9, 2021. Virtual.

[3] **Presentation**. *Efficient infrastructure placements with spatial analysis*. Department of Geography Education, Kongju National University, South Korea. November 18, 2020. Virtual.

[2] **Talk**. *Automated indoor network extraction from Building Information Modeling*. 2019 KHU-UWG Geo-Spatial Workshop. July 26, 2019. Carrollton, GA, USA.

[1] **Presentation**. *An approach about interoperability between Geographic Information Science and Building Information Modeling*. Young Korean Geographers Forum I, Korean-American Association for Geospatial and Environmental Sciences. April 4, 2019. Washington, DC, USA.

**Technical Workshops**

[4] *Workshop on Getting Started with CyberGISX*. The Annual Meeting of the American Association of Geographers. March 24, 2023. Denver, CO, USA.

[3] *Campus Operations GIS*. Texas GIS Day 2021. November 16, 2021. Virtual.

[2] *3D Aggieland*. Texas A&M University GIS Day 2018. November 11, 2018. College Station, TX, USA.

[1] *Hands-on 3D mapping*. Texas A&M University GIS Day 2018. November 11, 2018. College Station, TX, USA.

**FUNDING ACTIVITY**

**CO-PI**, Geospatial Fellows for Advancing COVID-19 Research & Education,     2020
Geospatial Software Institute of University of Illinois Urbana-Champaign,
with PI: Dr. Daniel W. Goldberg (Ph.D. Advisor)     USD 4,200

**Sim Travel Award**     2019
Korean-American Association for Geospatial and Environmental Sciences     USD 333

**International Conference Travel Awards**     2016
The Korean Geographical Society     KRW 500,000

Texas A&M University, Department of Geography
Travel Awards (2020)     USD 650
Travel Awards (2019)     USD 700
Travel Awards (2018)     USD 500

Kyung Hee University
Graduate Student Travel Awards (2015)     KRW 1,400,000
Graduate Student Travel Awards (2014)     KRW 1,400,000

## TEACHING EXPERIENCE

**Instructor**, GEOG457:Urban Geography & Planning     Spring 2024
Department of Geography and Geographic Information Science,
University of North Dakota

**Instructor**, GEOG474/L:Introduction to GIS     Fall 2023, Spring 2024
Department of Geography and Geographic Information Science,
University of North Dakota

**Instructor**, GEOG489:Programming for GIS     Spring 2022
Department of Geography and Geographic Information Science,
University of Illinois Urbana-Champaign
Recognized in List of Teachers Ranked as Excellent by Their Students

**Teaching Assistant**, GEOG361:Remote Sensing in Geoscience     Fall 2017
Department of Geography, Texas A&M University

## ACADEMIC & COMMUNITY SERVICE

**Service to Professional Organizations**

AAG Cyber Infrastructure Specialty Group (CISG)     2020–2025
President (2024–2025), Vice President (2023–2024),
Director (2021–2023), and Student Director (2020–2021)

Korean-American Scientists and Engineers Association at Texas A&M University 2017–2019
Treasurer

Korea-America Association for Geospatial and Environmental Sciences     2018–2019
Student Board Member

Association of Geography Graduate Student, Texas A&M University     2018–2019
Vice Chief Student Leader

**Conferences and Workshops**

**Co-Organizer**, AAG CISG Robert Raskin Student Competition, April 16–20, Honolulu, HI, USA.

**Program Committee**, I-GUIDE Forum 2023, October 4–6, New York, NY, USA.

**Co-Organizer**, Symposium on Harnessing the Geospatial Data Revolution for Sustainability Solutions, The Annual Meeting of the American Association of Geographers, March 23–27, Denver, CO, USA.

**Chair**, Computation and Uncertainty of Spatial Accessibility, The Annual Meeting of the American Association of Geographers, March 27, Denver, CO, USA.

**Co-Organizer**, The First All-Hands Meeting of the NSF I-GUIDE, September 8–9, 2022, Chicago, IL, USA.

**Co-Organizer**, The Annual Meeting of the Association of the Korean Geographers, 2015, Seoul, Korea.

**Journal Reviewer**

- Transactions in GIS, Wiley
- Journal of the American Water Resources Association, Wiley
- Cities, Elsevier
- The Professional Geographers, Taylor & Francis
- Annals of GIS, Taylor & Francis
- Transportation, Springer Nature
- Letters in Spatial and Resources Sciences, Springer Nature
- Journal of Asian Architecture and Building Engineering, Taylor & Francis
- Geocarto International, Taylor & Francis
- ISPRS International Journal of Geo-Information, MDPI
- Sustainability, MDPI
- International Journal of Environmental Research and Public Health, MDPI
- Land, MDPI

## PROFESSIONAL SOCIETY MEMBERSHIPS

- Association of American Geographers (AAG)
- University Consortium for Geographic Information Science (UCGIS)
- Asian Geographical Association (AGA)
- Korean-American Scientists and Engineers Association (KSEA)
- Korea-America Association for Geospatial and Environmental Sciences (KAGES)
- The Korean Geographical Society (KGS)

## CERTIFICATE & TECHNICAL SKILLS

Certification in Engineer Surveying Geo-Spatial Information

Strong Skill with GIS/RS Software: ArcGIS Pro, ArcGIS Enterprise, QGIS, ENVI, ERDAS

Strong Skill in Programming Languages: Python, R

Strong Skill in BIM Software: Autodesk Revit

Moderate Skill in Handling Database: MS SQL Server