

# UIJEONG HWANG

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## EDUCATION

<b>Ph.D. in City and Regional Planning</b> <i>Georgia Institute of Technology, GA, USA</i>	Aug. 2019 – Dec. 2023
<b>Master of Science in Urban Analytics</b> <i>Georgia Institute of Technology, GA, USA</i>	Aug. 2021 – Aug. 2023
<b>Master of Science in Urban Planning and Design</b> <i>University of Seoul, Seoul, South Korea</i>	Sep. 2015 - Aug. 2017
<b>Bachelor of Science in Urban Planning and Design, cum laude</b> <i>University of Seoul, Seoul, South Korea</i>	Mar. 2010 - Feb. 2016
<b>Exchange Program: Sustainable Area Development and Integrated Water Management</b> <i>Saxion University of Applied Science, The Netherlands</i>	Sep. 2014 - Feb. 2015

## RESEARCH INTERESTS

- Smart Growth & Sustainability; Travel Behavior & the Built Environment; Active Mobility; Transit Equity
- Geospatial Analytics; Visualization & Mapping; GIS
- Data Science; Urban Informatics; Deep learning; Computer Vision
- Network Analysis; Urban Modeling and Simulation

## PROFESSIONAL SKILLS

- *Programming Languages:* Python, R, C, SQL, JavaScript, HTML, and CSS
- *Frameworks & libraries:*
  - *Web development:* React.js, Node.js, and jQuery
  - *Visualization & mapping:* Mapbox.js, D3.js, kepler.gl, and deck.gl
  - *Machine Learning:* PyTorch, Tensorflow & Keras, OpenCV, and MMCV
  - *High performance computing:* MVAPICH2
- *Software:* ArcGIS, QGIS, Gephi, Adobe Photoshop & Illustrator, SketchUp, and AutoCAD

## RESEARCH & PROFESSIONAL EXPERIENCE

<b>Senior Planner</b> <i>Transportation Access &amp; Mobility, Atlanta Regional Commission, Atlanta, GA</i>	Aug. 2023 - present
<ul style="list-style-type: none"><li>• Implementation of region-wide agent-based travel demand modeling.</li><li>• Deep learning-based automation of transportation asset management process.</li></ul>	
<b>Research Assistant</b> <i>Center for Spatial Planning Analytics and Visualization (CSPAV), Georgia Tech, Atlanta, GA</i>	Aug. 2019 – Dec. 2023
<ul style="list-style-type: none"><li>• Developed Computer Vision models for detecting street infrastructure and predicting visual safety scores of streets.</li><li>• Analyzed the impact of bike lanes on transportation mode choice and biking safety.</li><li>• Developed and demonstrated an algorithmic framework for generating a complete street network in Atlanta.</li><li>• Assessed transit accessibility/equity/equality of the On Demand Multimodal Transit System.</li></ul>	
<b>Junior Researcher</b> <i>Transportation System Research Center, Seoul Institute, Seoul, South Korea</i>	Jul. 2018 – Jul. 2019
<ul style="list-style-type: none"><li>• Analyzed changes in the characteristics of household travel behavior in Seoul for 20 years.</li></ul>	

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## Junior Researcher

Jan. 2018 - Jun. 2018

Regional Economy Research Center, Korea Research Institute of Human Settlements, Sejong, South Korea

- Research on region-wide comprehensive development plans

## Research Assistant

Sep. 2015 - Aug. 2017

Economic Development & Spatial Planning Lab., University of Seoul, South Korea

- Analyzed the inter-relationship between urban decline and urban sprawl and its spatial diffusion.
- Developed follow-up measures for urban infrastructure that was planned decades ago yet unrealized in Seoul.
- Studied optimum standard for floor-area of commercial facilities in apartment housing complex.

## Intern

Jun. 2015 - Aug. 2015

Department of City Planning, the city of Seoul, South Korea

- Conducted a case study on zoning code reform in the U.S. cities.
- Organized 80 years history of land use changes in the city of Seoul and digitized using ArcGIS.

## Undergraduate Research Assistant

Jun. 2013 - Mar. 2014

Urban Design & History Lab., University of Seoul, South Korea

- Conducted field investigation on types of urban frontage in Downtown Seoul and digitized using ArcGIS.

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## JOURNAL ARTICLES

**Hwang, U.**, Lieu, S., Dalmeijer, K., Guan, H., Guhathakurta, S., & Van Hentenryck, P. (in press). Measuring Transit Equity of an On-demand Multimodal Transit System. *Journal of the American Planning Association*.

**Hwang, U.**, Kim, I., Guhathakurta, S., & Van Hentenryck, P. (2024). Comparing Different Methods for Connecting Bike Lanes to Generate a Complete Bike Network and Identify Potential Complete Streets in Atlanta. *Journal of Cycling and Micromobility Research*, 100015.

Koo, B., **Hwang, U.**, & Guhathakurta, S. 2023. "Streetscapes as Part of Servicescapes: Can walkable streetscapes make local businesses more attractive?" *Computers, Environment and Urban Systems*, 106, 102030

**Hwang, U.**, & Guhathakurta, S. 2023. "Exploring the Impact of Bike Lanes on Transportation Mode Choice: A simulation-based, route-level impact analysis." *Sustainable Cities and Society*, 104318.

**Hwang, U.**, & Woo, M. 2020. "Analysis of Interactions between Urban Decline and Urban Sprawl in City-regions of South Korea." *Sustainability*, 12(4), 1656.

**Hwang, U.**, & Woo, M. 2017. "Impact Analyses of City-County Consolidation on Urban Growth in South Korea." *Journal of Korea Planning Association* 52(1): 39-62. (In Korean)

**Hwang, U.**, & Woo, M. 2016. "Analysis of Urban Sprawl Types and Their Characteristics through Measuring Urban Sprawl in South Korea." *Journal of Korea Planning Association* 51(5): 21-42. (In Korean)

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## PRESENTATIONS

"Measuring Transit Equity in On-Demand Multimodal Transit Service".

Annual Conference of the Association of Collegiate Schools of Planning (ACSP), Toronto, Canada, on Nov. 5, 2022.

"Exploring the Impact of Bike Infrastructure on Mode Choice: Simulation-based, route-level impact analysis".

The 61st Annual Conference of the Association of Collegiate Schools of Planning (ACSP), Online, on Oct. 22, 2021.

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"From Complete Streets to Complete Street Networks: Determining optimum paths for connecting bike lanes to generate complete street network in Atlanta".

*The 60th Annual Conference of the Association of Collegiate Schools of Planning (ACSP)*, Online, on Nov. 7, 2020.

"Analysis of Interactions between Urban Decline and Urban Sprawl in City-regions of South Korea".

*The Spring Congress of Korea Planning Association (KPA)*, Yonsei University, Seoul, South Korea on Apr. 29, 2017.

"The Impacts of City-County Consolidation on Urban Growth in South Korea".

*The 56th Annual Conference of the Association of Collegiate Schools of Planning (ACSP)*, Portland, Oregon on Nov. 4, 2016.

"Measuring Urban Sprawl and Analyzing Its Types and Characteristics in South Korea".

*The Annual Meeting of the Association of American Geographers (AAG)*, San Francisco, California on Apr. 2, 2016.

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## HONORS & AWARDS

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- **Honorable Mention in 50<sup>th</sup> Annual CaGIS Map Design Competition (Digital/Interactive Map)**. The Cartography and Geographic Information Society, Mar. 24, 2023
  - Uijeong Hwang, Seung Jae Lieu, and Subhrajit Guhathakurta. *Atlanta's Transit Equity: Current benchmarks and future possibilities* ([https://uihwang.github.io/transit\\_equity](https://uihwang.github.io/transit_equity))
- **1st Place in GIS Hackathon**. School of City and Regional Planning, Georgia Tech, Nov. 9, 2019
- **KOFST Award for Excellent Paper in Science & Technology**. The Korean Federation of Science and Technology Societies (KOFST), Jun. 27, 2018
  - Uijeong Hwang and Myungje Woo. 2017. "Impact Analyses of City-County Consolidation on Urban Growth in South Korea." *Journal of the Korean Planners Association* 52(1): 39-62.
- **2017 Paper of the Year**. Korea Planning Association (KPA), Feb. 23, 2018
  - Uijeong Hwang and Myungje Woo. 2017. "Impact Analyses of City-County Consolidation on Urban Growth in South Korea." *Journal of the Korean Planners Association* 52(1): 39-62.
- **Award for Excellent Research Presentation**. Korea Planning Association (KPA), Apr. 29, 2017
  - Uijeong Hwang and Myungje Woo. "Analysis of Interactions between Urban Decline and Urban Sprawl in City-regions of South Korea." Presented at *the Spring Congress of Korea Planning Association (KPA)*, Yonsei University, Seoul, South Korea on Apr. 29, 2017.
- **Award for Outstanding Paper**. University of Seoul, Feb. 15, 2017
  - Uijeong Hwang and Myungje Woo. 2016. "Analysis of Urban Sprawl Types and Their Characteristics through Measuring Urban Sprawl in South Korea." *Journal of the Korean Planners Association* 51(5): 21-42.
- **Award for Excellent Research Presentation**. Korea Planning Association (KPA), Apr. 30, 2016
  - Uijeong Hwang and Myungje Woo. "Analysis of Urban Sprawl Types and Their Characteristics through Measuring Urban Sprawl in South Korea." Presented at *the Spring Congress of Korea Planning Association (KPA)*, University of Seoul, Seoul, South Korea on Apr. 30, 2016.
- **Scholarship for Combined BS/MS Degree Program**, University of Seoul, Spring 2016; Fall 2016; Spring 2017
- **Award Certificate for Graduation with Honors**, Korea Planning Association (KPA), Feb. 2016
- **Best Graduation Work**, Korean Professional Urban Planner's Association, Jun. 2015
- **Seoul Mayor's Scholarship for Excellent Academic Achievement**, the city of Seoul, Fall 2015
- **DB Group Scholarship**, DB Group, Spring 2014; Fall 2014; Spring 2015
- **Scholarship for Student Ambassador**, University of Seoul, Spring 2014
- **Scholarship for Excellent Academic Achievement**, University of Seoul, Fall 2010; Fall 2013

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## CERTIFICATES

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- **Advanced Data Analytics Semi-Professional (state certified)**, Korea Data Agency, South Korea, Sep. 2017.
- **Urban Planning Engineer (state certified)**, Human Resources Development Service of Korea, South Korea, Aug. 2017.