Hojung Yu

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Education

M.S. City and Regional Planning, Georgia Institute of Technology **2024 –2026**

- Concentrations: Urban Analytics
- Thesis: "Examining thermal adaptation patterns to extreme heat in mobility from longitudinal GPS data"

B.A. Architecture, Yonsei University, Seoul, South Korea **2015 –2020**
University of Sydney, Exchange Program

Research Interests

- Urban form, walkability, and mobility equity
- Microclimate and active transportation
- Public health and resilience

Fellowships

Fulbright U.S. Student Program Principal Candidate, $90,000 **2024 – 2026**

Merit-based Scholarship, Yonsei University. $1,200 **2020**

Research Experience

Graduate Research Assistant, Center for Urban Resilience and Analytics (CURA), Georgia Tech **Spring 2025 - *Ongoing***

Advisor: Rounaq Basu

Project: NO-HEAT (Neutralizing Onerous – Heat Exposure Active Transportation)

- Modeled high-resolution urban microclimate (UTCI) across Metro Boston by integrating remote sensing data with QGIS and Python workflows.
- Quantified socio-demographic disparities in heat exposure by linking microclimate rasters with mobility data, analyzing heat exposure by mode, time of day.
- Developed pipelines incorporating CPU parallel processing and parametric analyses on High Performance Computing (HPC) to process approximately 7 billion pixels.

Co-authored paper accepted for presentation in ACSP 2025 and TRB 2026 in January.

Master's thesis, Georgia Tech **Fall 2025 - *Ongoing***

- Invetigating the impact of extreme heat on individual travel behavior and mode choice using discrete choice modeling.
- Processing meteorological reanalysis data (ERA5) to calculate heat indices, establishing control thresholds to identify behavioral adaptation during extreme heat events.

Presentation

Basu, R. **Yu, H**. (2025, October 22-25). *How do mobility patterns affect extreme heat exposure while walking and biking?*. Association of Collegiate Schools of Planning (ACSP) Conference, Minneapolis, MN. United States.

Basu, R. **Yu, H**. (2026, January 11-15). *Mobility Matters: Examining Exposure To Extreme Heat While Walking and Biking in Metro Boston*. Transportation Research Board Annual Meeting 2026, Washington, D.C., United States.

Teaching Experience

Teaching Assistant, Georgia Tech **Fall 2025**

Course: The Vertically Integrated Projects (VIP) Program

- Guided undergraduate for microclimate modeling through geospatial workflows, data processing, and interpretation of results.

Professional Experience

Senior Urban Designer, Junglim Architecture, Seoul, South Korea **2021 – 2024**

Selected Projects: Asan Tangjeong2 New Town Masterplan; Euiwang, Gunpo, and Ansan New Town Masterplan, Design and Systems of Integrated Childcare Center Facilities

- Led the spatial planning and design strategy for large-scale master plan projects, including Asan Tangjeong Masterplan and Euiwang, Gunpo, and Ansan New Town Masterplan near Metro Seoul.
- Conducted regulatory analysis of transit-oriented developments (TOD), evaluating setbacks, open space requirements, and land-use interfaces to optimize transit accessibility.
- Collaborated with the Korean Land & Housing Institute (LHI) to formulate public policy guidelines for diverse housing development types in Gyeonggi-do.
- Coordinated with multidisciplinary teams of planners and civil engineers to align built environement proposals with mobility infrastructure requirements.

Honors & Awards

Young Architects Fellowship, awarded by Korean Institute of Architecture and Ministry of Culture, Sports and Tourism **2022**

- Investigated the adaptive reuse project in Amsterdam, which converted former heavy-industrial land into housing while managing heavily polluted soil.
- Conducted site visits and interviews with key stakeholders (researchers, architects) and proposed future design and planning strategies for soil preservation.

Modern Architecture & Urbanism Design Competition, Honorable Mention, awarded by Korea Architects Institute **2022**

- Proposed the adaptive reuse of a well-known heritage building within a historic district into a mixed-use development.
- Strengthened connections between Seoul Station and the project site by creating walkable public spaces integrated with surrounding buildings, expanding accessible open space for the public.

Mentoring Experience

English Tutor, World Vision, South Korea **2023**

Volunteer Works

- Supported underprivileged elementary school students in building confidence in speaking and using everyday English.

Extra Activities

Vice President, Women's in Transportation Seminar (WTS), Georgia Tech **2025**

- Coordinated professional networking and social events and launched a recurring newsletter to build and sustain a transportation-focused student community at Georgia Tech.

Student member, ACSP **2025**

Yonsei Video Arts Center, Yonsei University 2017

Exhibition

Gwangyang Urban Regeneration Idea Workshop, Gwangyang, South Korea **2019**

- Developed a sustainable pavilion concept designed for easy disassembly and reuse.

UAUS Pavilion Exhibition, Union of Architecture University Students, South Korea **2018**

- Designed and constructed an experimental pavilion exploring concepts of wearable architecture.

Methods & Skills

Computational Methods

- Python: numpy, pandas, geopandas, rasterio, rioxarray, multiprocessing, GDAL, PDAL, PyQGIS, etc.
- R: tidyverse, mlogit/VGAM, spatial datasets
- Scalable projects on High Performance Computing (HPC)

GIS & Remote Sensing

- QGIS (including plugins like UMEP, SOLWEIG), ArcGIS
- LiDAR processing
- Raster processing (inlcuding handling satellite imageries, DEM, DSM)