Koichi Ito

Singapore

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Research Interests

A PhD student at the National University of Singapore and consultant at the World Bank Group, interested in researching human mobility and equity with emerging spatial data sources, such as street-view imagery, and machine/deep learning techniques.

Education

The National University of Singapore   **Aug 2022 – Present**
PhD in Urban Analytics   *Singapore*

- Ongoing projects supervised by Dr. Filip Biljecki:
    1. Python package for street view imagery analysis.
    2. EEG-based analysis of cyclists' visual perception.

The National University of Singapore   **Aug 2019 – May 2021**
Master of Urban Planning   *Singapore*

- 4.53/5.00 cumulative GPA (Highest Distinction)

Soka University of America   **Aug 2015 – May 2019**
Bachelor of Arts, Liberal Arts with Concentration in Environmental Studies   *Aliso Viejo, CA*

- 3.95 /4.00 cumulative GPA (summa cum laude)

Council on International Educational Exchange   **Aug 2017 – Dec 2017**
Study Abroad Program   *Dakar, Senegal*

Honors

- Singapore International Graduate Award (SINGA) Scholarship   **Aug 2022 – Present**
- Japan Student Services Organization Scholarship (US$40,000)   **Aug 2020 – May 2021**
- Soka University of America Makiguchi Scholarship (US$10,000)   **May 2019**
- Soka University of America Dean's List (GPA is 3.7 or higher)   **Dec 2015 – May 2019**
- Soka University of America Merit Scholarship (US$20,000)   **Aug 2015 – May 2019**

Publications

- **Ito, K.**, Bansal, P., & Biljecki, F. (2024). *Examining the causal impacts of the built environment on active transportation using time-series street view imagery.* Manuscript under review for publication in *Transportation Research Part A: Policy and Practice.*

- **Ito, K.**, Quintana, M., Han, X., Zimmermann, R., & Biljecki, F. (2024). *Sidewalk the Talk: Translating street view imagery to correct perspectives to enhance bikeability and walkability studies.* Manuscript under review for publication in *Transportation Research Part C: Emerging Technologies.*

- **Ito, K.**, Kang, Y., Zhang, Y., Zhang F., & Biljecki, F. (2024). *Understanding Urban Perception with Visual Data: A Systematic Review.* Manuscript under review for publication in *Cities.*

- Wang, Z., **Ito, K.**, & Biljecki, F. (2023). *Assessing the equity and evolution of urban visual perceptual quality with time series street view imagery. Cities*, 145, 104704. https://doi.org/10.1016/j.cities.2023.104704

- **Ito, K.**, & Biljecki, F. (2021). *Assessing bikeability with street view imagery and computer vision. Transportation Research Part C: Emerging Technologies*, 132, 103371. https://doi.org/10.1016/j.trc.2021.103371

- Biljecki, F., & **Ito, K.** (2021). *Street view imagery in urban analytics and GIS: A review. Landscape and Urban Planning*, 215, 104217. https://doi.org/10.1016/j.landurbplan.2021.104217

Academic Journal Peer Review

- Landscape and Urban Planning   *Reviewed 2 times* **2022, 2023**
- International Journal of Geographical Information Science   *Reviewed 1 time* **2023**
- Computational Urban Science   *Reviewed 1 time* **2023**
- Journal of Geographical Systems   *Reviewed 1 time* **2022**
- International Journal of Applied Earth Observation and Geoinformation *Reviewed 1 time* **2022**
- Environment and Planning B: Urban Analytics and City Science   *Reviewed 2 times* **2021, 2022**

Talks and Poster Presentations

- **"Evaluating active mobility and urban perception with visual data"**   **Oct 2023**
  Gave a guest lecture talk at a GIS course at the National University of Singapore.   *Singapore*

- **"Sidewalk the Talk: Translating street view imagery to correct perspectives to enhance bikeability and walkability studies"**   **Oct 2023**
  Presented a poster at the Urban Solutions and Sustainability R&D Congress.   *Singapore*

- **"Street View Imagery: Have we answered all the questions with it? What's left to do?"**   **Sep 2023**
  Organized a session at Spatial Data Science Symposium 2023.   *Online*

- **"Application of GIS in research and international institution."**   **Oct 2021**
  Presented my research at Soka University of America, Advanced GIS Course.   *Online*

Work Experience

The World Bank Group — Poverty and Equity Global Practice   **Apr 2021 – Present**
Consultant   *Remote*
- Developed and maintained interactive data dashboards using Shiny and Golem frameworks to facilitate spatial data visualization and analysis.
- Implemented spatial lag models in R to analyze factors correlated with poverty and stunting.
- Led the collection, cleaning, and mapping of various data sets including nighttime light, natural disaster metrics, household data, and accessibility indicators using R.
- Conducted a capacity-building program for the Tanzania's National Bureau of Statistics, imparting skills and knowledge on spatial analysis using R.

Johnson Controls   **Nov 2020 – May 2021**
Data Analytics Intern   *Singapore*
- Constructed a data pipeline of PM2.5 data, weather data, and traffic data in Singapore on Azure Synapse for a real-time Power BI dashboard.
- Built a time-series model to predict PM 2.5 levels anywhere in Singapore in Python.

The World Bank Group — Tokyo Development Learning Center   **Apr 2020 – Jan 2021**
Urban Development Research Intern   *Remote*
- Compiled comprehensive data set of over 4,000 Tokyo-based startups' information, such as addresses, investors, and accelerators, using Python.
- Visualized financial performance of light rail transport system in Toyama prefecture between 2002 and 2019.

ENDA LEAD Afrique Francophone   **Aug 2017 – Dec 2017**
Research Intern   *Dakar, Senegal*
- Authored a report on accessibility to potable water in 500 villages in the Saint-Louis region in Senegal.

Teaching Experience

AR5805 Advanced Architecture Studio   **Aug 2023 – Dec 2023**
Teaching Assistant   *The National University of Singapore, Department of Architecture*
- Assisted the lead professor with logistical and administrative tasks, including the preparation of course documents and aiding in the smooth operation of lectures.

Supervising

- Zeyu Wang, Master of Urban Planning   **Aug 2022 – May 2023**

Technical Skills

Languages: Japanese (native), English (fluent), French (limited working proficiency)
Computer Skills: Python, R, SQL, Spark, ArcGIS, QGIS, Google Earth Engine, Azure, AWS, Power BI

References

- **Filip Biljecki**
  Presidential Young (Assistant) Professor
  College of Design and Engineering, The National University of Singapore

- **Prateek Bansal**
  Presidential Young (Assistant) Professor
  College of Design and Engineering, The National University of Singapore

- **Victor Mulas**
  Director
  World Bank Group, Tokyo Development Learning Center

- **Takaaki Masaki**
  Senior Economist
  The World Bank, Poverty & Equity Global Practice