YAP YU MING WINSTON

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https://www.winstonyym.com/
https://github.com/winstonyym

PHD CANDIDATE

SKILLS

Analytical
Software Development (*Python*)
Deep Learning (*Pytorch | TensorFlow)*
GIScience (*Python| R | QGIS)*
Computer Vision (*OpenCV | Open3D*)
3D Point Cloud Processing (*CC | Python*)
Network Analytics (*Networkx*)
Graph Machine Learning (*PyTorch Geom*)
Statistical Modelling (*R | Python*);

Design
Web Development (*HTML5 | JS | CSS*);
Mobile App Development (*Flutter*);
Dashboard Analytics (*Dash*);
Poster Design (*Adobe Photoshop*);
3D Modelling & Render (*Blender*);

EDUCATION

PhD, Urban Analytics (GPA: 4.75/5.0)
National University of Singapore
Supervised by Prof. Filip Biljecki

2021 - 2025

Masters of Urban Planning (95th Perc.)
National University of Singapore

2017 - 2018

BSc Real Estate (Hons) w.
Specialisation in Urban Planning
National University of Singapore

2013 - 2017

REFEREES

CHAN Heng Chee
Professor (Former Chair)
Lee Kuan Yew Centre for
Innovative Cities
(PA) serena_lin@sutd.edu.sg

NEO Harvey
Professorial Fellow
Lee Kuan Yew Centre for
Innovative Cities
harvey_neo@sutd.edu.sg

BILJECKI Filip
Assistant Professor (Supervisor)
National University of Singapore
filip@nus.edu.sg

RESEARCH EXPERIENCE

Student Researcher
Deguchi Lab, University of Tokyo, Tokyo, Japan — Mar 2017 - Aug 2017

Research Associate
Lee Kuan Yew Centre for Innovative Cities, Singapore — Apr 2018 - Aug 2021

PhD Internship, ML Engineer, Self-Driving
Map IV, Nagoya, Japan (*NUS Overseas College*) — Jan 2024 - July 2024

Visiting Researcher
MIT Senseable City Lab, Boston, USA — Aug 2024 - Feb 2025

MANUSCRIPT PUBLICATION

(Under-review) **Yap, W.**, Wu, AN., Miller, C., & Biljecki, F. (2024). Revealing spatial dynamics of city-scale building operating carbon and its relationship with urban form and land use characteristics.

Fujiwara, K., Khomiakov, M., **Yap, W.**, Ignatius, M., & Biljecki, F. (2024). Microclimate vision: Multimodal prediction of climatic parameters using street-level and satellite imagery. Sustainable Cities and Society, 105733.

Hou, Y., Quintana, M., Khomiakov, M., **Yap, W.**, Ouyang, J., Ito, K., ... & Biljecki, F. (2024). Global Streetscapes—A comprehensive dataset of 10 million street-level images across 688 cities for urban science and analytics. ISPRS Journal of Photogrammetry and Remote Sensing, 215, 216-238.

Chan, H. C. & **Yap, W**. (2023). Housing and the city: The Singapore case. Council of Urban Initiatives. UN-Habitat, UCL IIPP and LSE Cities.

Yap, W & Biljecki, F. (2023). A Global Feature-Rich Network Dataset of Cities and Dashboard for Comprehensive Urban Analyses. Scientific Data, 10, 667. https://doi.org/10.1038/s41597-023-02578-1

Yap, W., Stouffs, R. & Biljecki, F. (2023). Urbanity: automated modelling and analysis of multidimensional networks in cities. npj Urban Sustainability, 3, 45. https://doi.org/10.1038/s42949-023-00125-w

Yap, W., Janssen, P., & Biljecki, F. (2022). Free and open source urbanism: software for urban planning practice. Computers, Environment and Urban Systems, 96, 101825. https://doi.org/10.1016/j.compenvurbsys.2022.101825

Yap, W., Chang, J. H., & Biljecki, F. (2022). Incorporating networks in semantic understanding of streetscapes: Contextualising active mobility decisions. Environment and Planning B: Urban Analytics and City Science, 50, 1416-1437. https://doi.org/10.1177/23998083221138832

TEACHING & STUDENT MENTORSHIP

Graduate Teaching Assistant, CDE2212 Artificial Intelligence for Design.
@National University of Singapore - Fall 2023.

Graduate Teaching Assistant, DEP5101 Planning Technologies (Introduction to R).
@National University of Singapore - Spring 2022.

Bootcamp Instructor, Masters of Urban Science, Policy, and Planning Python Bootcamp.
@Singapore University of Technology and Design - Spring 2023.

Co-supervision - Brian van Laar, Master of Science, Spatial, Transport and Environmental Economics, VU Amsterdam.

SEMINARS

(Upcoming) "Decarbonizing Cities". International Forum of Urbanism Global Seminar. Virtual. 28 October 2024.

"Urban Network Modelling and Analytics". Presentation to Tokyo Institute of Technology, Asawa Laboratory, Japan. 21 April, 2024.

"Open Source Software & Urban Network Analytics". Presentation to Takenaka Corporation Tokyo Headquarters, Japan. 22 April, 2024.

"Urban Network Modelling Workshop with Urbanity". Free and Open Source for Geospatial Asia 2023. Seoul Hall of Urbanism and Architecture, South Korea. 28 November, 2023.

"Science-based Approach to Future Scenario Planning?". Urban Solutions and Sustainability R&D Conference 2023: Science of Cities Symposium. Marina Bay Sands Expo, Singapore. 5 October, 2023.

"Multidimensional Network Modelling with Urbanity?". 127th OGC Member Meeting: Digital Twins Special Session. Lifelong Learning Institute, Singapore. 26 September, 2023.

"Unlocking Urban Insights: How Technology Shapes City Planning and Management". Integrative Fiesta. SMU College of Integrative Studies, Singapore. 8 September, 2023.

"Street view imagery: Have we answered all the questions with it? What's left to do?". 4th Spatial Data Science Symposium. Virtual. 6 September, 2023.

"Free and Open Source Digital Planning Tools". Planning Institute of Australia, PlanTech Series. 20 July, 2023.

"Drivers and Challenges of Digital Citizen Participation: Experiential Evidence from Southeast Asian Cities". RC21 Conference: Sensing the City. Antwerp. 15 July, 2021.

BOOKS / BOOK CHAPTERS

Nicholas, S & **Yap, W**. Is the City Center Hollowing Out?, In Chan, H. C., Neo, H., & Joyce, S (Eds), Socio-spatial Reconfiguration of the City Post-Covid, World Scientific.

Chan, H. C., **Yap, W.,** & Nicholas, S. The Magic of Modernity, In Chan, H. C., Neo, H., & Joyce, S (Eds), Socio-spatial Reconfiguration of the City Post-Covid, World Scientific.

Yuen, B., Močnik, Š., Moogoor, A., Dieterich, A., **Yap, W.**, & Bhuyan, M. R. (2022). Age-friendly Neighbourhood Environmental Audit Toolkit, World Scientific (electronic print).

Yuen, B., Bhuyan, M. R., Dieterich, A., **Yap, W.**, & Chua, R. (2022). Age-friendly Neighbourhood Post-implementation Toolkit, World Scientific (electronic print).

Yuen, B., Bhuyan, M. R., Song, S., Moogoor, A., **Yap, W.,** Močnik, Š., & Chua, R. (2022). Age-friendly Neighbourhood Planning and Design Guidelines: A Singapore Case Study, World Scientific.

Yap, W & Norakmal, H. (2021). Tokyo - Pushing Frontiers, Planning for Society 5.0., In Arturo, B., Christos, C., Bruno, L., & Chan, H. C. (Eds), *Cities in a Time of Global Emergencies*. IMD.

Yuen, B., Močnik, Š., Yu, C. F., & **Yap., W.** (2020). Ageing-friendly neighbourhoods in Singapore, Asia-Pacific, Europe and North America: An Annotated Bibliography, Springer Briefs in Aging.

ACADEMIC ACTIVITIES & SERVICES

Reviews

Geoforum (2019); Int. J. Geogr. Inf (2022); J. Open Source Softw (2022); Transp. Res. D: Transp (2023); Sustain. Cities Soc (2023); Environ Plan B Urban Anal City Sci (2023; 2024); Geogr Analysis (2023); Trans GIS (2023); Int. J. Appl. Earth Obs (2023); Comput Environ Urban Syst (2024); Sci. Data (2024);

Services

College Representative for National University of Singapore Graduate Education Virtual Open House	2022
Organizing Committee for SUTD-NUS PhD Symposium	2022
Speaker for NUS Cities Panel of Advisors Research Showcase	2023
National Representative for Round-table Discussion with Japanese Minister of Education (Nagoya, Japan)	2024

AWARDS

NUS PhD Research Scholarship	2021-2025
Singapore Data Science Consortium Dissertation Fellow	2023
FOSS4G Asia Travel Award	2023
NUS Overseas Research Immersion Award	2024
World Cities Summit Young Leader	2024
International Forum of Urbanism Young Leader	2024