

## Education

In Progress

**Ph.D. in Urban and Regional Planning**, *Massachusetts Institute of Technology (MIT)*

*Department of Urban Studies and Planning (DUSP)*

*Dissertation: Reparative Urban Science: Challenging Race-neutral Ideology and Creating Data-driven Public Narratives for Reparations*

Committee: Catherine D'Ignazio (Chair), Justin Steil, Anette "Peko" Hosoi (MIT IDSS), Erin McElroy (University of Washington)

2020

**Master in City Planning**, *Massachusetts Institute of Technology (MIT)*

2015

**Bachelor of Fine Arts in Visual Communication Design**, *Kookmin University*

## Research Interests

*Critical Data Studies, Racism, Fair Housing, Segregation, AI Ethics, Data Visualization, Mapping*

## Peer-Reviewed Publications

2024

**So, W.** [Reparative Urban Science: Challenging the Myth of Neutrality and Crafting Data-driven Narratives](#). Forthcoming to *Planning Theory and Practice*.

2024

Liu, E., **So, W.**, Hosoi, A.E., & D'Ignazio, C. [Racial Steering by Large Language Models: A Prospective Audit of GPT-4 on Housing Recommendations](#). Forthcoming to *the 2024 ACM Conference on Equity and Access in Algorithms, Mechanisms, and Optimization (EAAMO '24)*

2023

**So, W.** & D'Ignazio, C. [Race-Neutral vs Race-Conscious: Using Algorithmic Methods to Evaluate the Reparative Potential of Housing Programs](#). *Big Data & Society*. 10(2), 1-16.

2023

**So, W.** [Which Information Matters? Measuring Landlord Assessment of Tenant Screening Reports](#). *Housing Policy Debate*, 33(6), 1484-1510.

2022

**So, W.**, Lohia, P., Pimplikar, R., Hosoi, A. E., & D'Ignazio, C. [Beyond Fairness: Reparative Algorithms to Address Historical Injustices of Housing Discrimination in the US](#). *2022 ACM Conference on Fairness, Accountability, and Transparency (ACM FAccT)*, 988-1004. [Video]

2022

Suresh, H., Movva, R., Dogan, A. L., Bhargava, R., Cruken, I., Cuba, A. M., Taurino, G., **So, W.**, & D'Ignazio, C. [Towards Intersectional Feminist and Participatory ML: A Case Study in Supporting Femicide Counterdata Collection](#). *2022 ACM Conference on Fairness, Accountability, and Transparency (ACM FAccT)*, 667-678. **Best student paper award.**

2022

D'Ignazio, C., Cruken, I., Suárez Val, H., Cuba, A. M., Garcia-Montes, M., Fumega, S., Suresh, H., & **So, W.** [Femicide and Counterdata Production: Activist Efforts to Monitor and Challenge Gender-Related Violence](#). *Patterns*, 3(7), 1-13.

2020

**So, W.**, & Duarte, F. [Cartographers of North Korea: Who Are They and What Are the Technical, Political, and Social Issues Involved in Mapping North Korea](#). *Geoforum*, 110, 147-156.

2020

**So, W.**, Bogucka, E. P., Scepanovic, S., Joglekar, S., Zhou, K., & Quercia, D. [Humane Visual AI: Telling the Stories behind a Medical Condition](#). *IEEE Transactions on Visualization and Computer Graphics*, 678-688.

2020

Bogucka, E. P., Constantinides, M., Aiello, L. M., Quercia, D., **So, W.**, & Bancilhon, M. [Cartographic Design of Cultural Maps](#). *IEEE Computer Graphics and Applications*, 12-20.

## Under Review and In Progress

**So, W.** Race, Profit, and Algorithms: Neighborhood-level Analysis of iBuyers' Profit Margin. Revise & resubmit at *Journal of Urban Affairs*.

**So, W.**, Holloway, H., & Geller, D. Screening and Being Screened: A Survey Analysis of Landlords and Tenants.

**So, W.**, Gade, A., & Hangen, F. Choice Denied: Prevalence and Impact of Tenant Screening on the Housing Choice Voucher Program.

Gade, A. & So, W. Could Fairness and Neutrality Lead to Bias? Analyzing the Public Housing Approach to Digitized Tenant Screening.

**So, W.**, Aizman, A., Navalkha, C., & D'Ignazio, C. The Varied Landscape of Housing Data Politics.

## Book Chapters, Workshop Papers, and Other Publications

2022 D'Ignazio, C., **So, W.**, & Ntim-Addae, N. The Audit: Perils and Possibilities for Contesting Oppression in the Heritage Landscape. In *The Routledge Handbook of Architecture, Urban Space and Politics, Volume I*. Routledge.

2022 Bhargava, R., Suresh, H., Dogan, A., **So, W.**, Suarez Val, H., Fumega, S., and D'Ignazio, C. News as Data for Activists: A Case Study in Femicide Counterdata Production. *Computation + Journalism* 2022. New York, NY.

2020 D'Ignazio, C., Val, H., Fumega, S., Suresh, H., Cruxen, I., **So, W.**, Martinez, A., and Garcia-Montes, M. Femicide & Machine Learning: Detecting Gender-based Violence to Strengthen Civil Sector Activism. MD4SG '20: 4th Workshop on Mechanism Design for Social Good, August 17-19, 2020. New Horizons award for most inspiring paper.

2016 Kang, E. & **So, W.** multilingual.js: A Javascript Library for Multilingual Typesetting. *LetterSeed 13: Technology and Typography*. Korean Society of Typography. Seoul, Korea.

2016 **So, W.**, Koh, A., & Kang, E. Zeroboard, Easy-to-Install BBS—Rough Sketch for a Techno-Cultural Maker History of the Korean Internet. *Open Net Research Paper Competition*, Seoul, Korea.

## Reports and Essays

2024 TechEquity Collaborative & **So, W.** Screened Out of Housing: How AI-Powered Tenant Screening Hurts Renters.

2021 McElroy, E. & **So, W.** Landlord Tech in Covid-19 Times. *Metropolitica*.

2021 McElroy, E., **So, W.**, & Weber, N. Keeping an Eye on Landlord Tech. (2021). *Shelterforce*.

2017 **So, W.** Urban Data Visualization. May 2017 *Landscape Architecture Korea*, Seoul, Korea.

2017 **So, W.** Seoul Libre Maps. In *Imminent Commons: Live from Seoul*. Actar Publishers. New York, NY.

## Selected Data Visualizations

2021 Shin, Y., Kirkpatrick, N., D'Ignazio, C., & **So, W.** Columbus Is Still Honored in 6,000 Places across the U.S. *Washington Post*.

2020 Landlord Tech Watch. Project of the Anti-Eviction Mapping Project.

2021 Singapore Calling. MIT Senseable City Lab Project.

2020 Cartographers of North Korea. Independent Project.

2016 [Treepedia](#). *MIT Senseable City Lab Project*.

## Teaching Experience

'21, '23, '24 MIT: Workshop on Geographic Information Systems (GIS) (Graduate level; evaluation: avg 6.5/7.0)  
'21, '23, '24 MIT: Introduction to GIS and Spatial Analysis (Graduate level; evaluation: avg 6.8/7.0)  
Fall 2022 MIT: Quantitative Reasoning and Statistical Methods for Planning (Graduate level; evaluation: 6.8/7.0)  
Spr 2022 MIT: Graduate Thesis Clinic (Graduate level; evaluation: 6.9/7.0)

## Professional Experience

Sep 2021– Graduate Teaching Assistant, *Massachusetts Institute of Technology (MIT)*  
Sep 2020– Research Assistant & Technical Lead, *Data + Feminism Lab, MIT DUSP*  
2019–2020 Researcher, *MIT Visualization Group, MIT CSAIL*  
2018–2020 Graduate Research Assistant, *MIT Senseable City Lab, MIT DUSP*  
2019– Research Intern, *Nokia Bell Labs, Social Dynamics Group, Cambridge, UK*  
2017–2018 Data Visualization Specialist, *Singapore-MIT Alliance for Research and Technology*  
2016 Research Fellow & Data Visualization Specialist, *MIT Senseable City Lab, MIT DUSP*  
2017 Curator, *2017 Seoul Biennale of Architecture and Urbanism*  
2011–2013 Co-founder & Inside Director, *Tumblbug inc*  
2013–2014 Designer & Developer, *Anyang Public Art Project (APAP)*  
2009–2011 Web Designer (Korea Navy Reserve), *Republic of Korea Navy Headquarters, Public Affairs Department*  
2007–2008 Web Designer, *The Center for Youth and Cultural Studies, Yonsei University*

## Fellowships and Grants

2023 Mozilla Technology Fund (\$50,000), *Mozilla Foundation*  
2021 Human Rights & Technology Fellowship (\$2,000), *MIT Center for International Studies*  
2021 Harold Horowitz (1951) Student Research Fund (\$3,000), *School of Architecture and Planning, MIT*  
2020 MIT Presidential Fellowship, *MIT*  
'18-'20 Graduate Academic Fellowship, *Department of Urban Studies and Planning, MIT*

## Selected Awards

2019 [Gold Winner](#). *Kantar Information is Beautiful Awards. London, United Kingdom.*  
2020 [Honorable Mention](#). *Fast Co. Innovation by Design Awards (Data and Design). New York, NY.*  
2017 [Shortlist](#). *Kantar Information is Beautiful Awards. London, United Kingdom.*  
2017 [Finalist](#). *Fast Co. Innovation by Design Awards (Graphic Design and Data Visualization). Treepedia.*  
2016 [Research Grant \(Third Grade\)](#). *Open Net Research Paper Competition. Seoul, Korea.*  
2015 [Longlist](#). *Kantar Information is Beautiful Awards. London, United Kingdom.*  
2012 [Finalist](#). *Adobe Design Achievement Awards (Browser Based Design). Toronto, Canada.*  
2009 [Semi-Finalist](#). *Adobe Design Achievement Awards (Application Development). New York, NY.*

2008 **Finalist.** *Adobe Design Achievement Awards (Designer-developer Collaboration).* New York, NY.

## Selected Talks

- Oct 2022 **Which Information Matters? Measuring Landlord Assessment of Tenant Screening Reports.** *National Consumer Law Center, Boston, MA.*
- Dec 2021 **Audit the Streets.** *MIT Libraries & Programs in Digital Humanities, Cambridge, MA.*
- Nov 2021 **Act of Archiving as a Resistance: Mapping the Industry & Trade Ecosystem of Cheongyecheon, Euljiro, Seoul.** *Graduate School of Design, Harvard University. Cambridge, MA.*
- Oct 2021 **Audit the Streets.** *North American Cartographic Information Society (NACIS). Oklahoma City, Oklahoma.*
- Oct 2021 **Artist Talk.** *Korean University of Arts, Seoul, Korea*
- Jan 2021 **What could an antistubordination visualization be?** *Taubman College of Architecture and Planning, University of Michigan, Ann Arbor, Michigan.*
- Oct 2020 **Artist Talk.** *Boston University, Boston, MA.*
- Oct 2019 **Cartographers of North Korea.** *IEEE VIS Arts Program: Artist Talk. Vancouver, BC, Canada.*
- Oct 2017 **Treepedia: for civically minded people who care about green city.** *IEEE VIS Arts Program: Artist Talk. Phoenix, AZ.*
- May 2017 **Urban Data Visualization.** *Singapore-MIT Alliance for Research and Technology. Singapore.*
- Jun 2017 **Open Source Map and Seoul: History of Technology, Commons and Open Source.** *2017 Seoul Biennale of Architecture and Urbanism. Dongdaemun Design Plaza. Seoul, Korea.*
- Oct 2016 **(Individual)-[Collaboration]-(Individual)=Creative Communities.** *Boston Tech Poetics. Boston, MA.*
- Jun 2016 **Creative Communities: South Korea Case Study.** *Boston Civic Media. Microsoft NERD Center.*

## Selected Exhibitions

- 2021 **Cartographers of North Korea.** *2021 Seoul Biennale of Architecture and Urbanism, Seoul, Korea.*
- 2019 **Balancing Art: Urbanism & Emerging Technologies.** *Boston Society of Architects/AIA. Boston, MA.*
- 2019 **From Point A to Point B.** *Data Through Design Exhibition. The New Lab. Brooklyn, NY.*
- 2017 **Treepedia & Underworlds.** *Big Bang Data. MIT Museum. Cambridge, MA.*
- 2017 **Seoul Libre Maps.** *2017 Seoul Biennale of Architecture and Urbanism. Dongdaemun Design Plaza. Seoul, Korea.*
- 2016 **Korean Internet Tour Guide.** *SeMA Biennale Mediacity Seoul 2016. Seoul Museum of Art. Seoul, Korea.*
- 2016 **Small World: Graphic Designers.** *Graphic Design, 2005-2015, Seoul. Ilmin Museum of Art. Seoul, Korea.*
- 2014 **Water Conflict Map 3000 BC-2014.** *Waterscapes: Politics of Water. Kumho Museum of Art. Seoul, Korea.*

## Service

- Reviewing *ACM FAccT, ACM EAAMO, Journal of Urban Affairs, Housing Policy Debate, Environment and Planning B, Journal of Law and Empirical Analysis, International Journal of Housing Policy*
- Committee *PhD Admission Committee 2022-2023 (MIT DUSP). PhD Committee 2020 (MIT DUSP), Master in City Planning Admission Committee 2020 (MIT DUSP).*

## Press

- 2024 **OpenAI's Chatbot Shows Racial Bias in Advising Home Buyers and Renters.** *New Scientist.*

- 2023 [Artificial Intelligence Is Driving Discrimination in the Housing Market.](#) *Jacobin*.
- 2022 ['Fair' AI could help redress bias against Black US homebuyers.](#) *New Scientist*.
- 2021 [Columbus Is Still Honored in 6,000 Places across the U.S.](#) *Washington Post*.
- 2017 [Not a concrete jungle: Singapore beats 16 cities in green urban areas.](#) *Strait Times*

## Reference

### Catherine D'Ignazio

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*Department of Urban Studies & Planning, MIT*  
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