

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

Technology Studies, Racism, Fair Housing, Segregation, AI Ethics, Data Visualization, Mapping

Peer-Reviewed Publications

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*.

2022

So, W. Which Information Matters? Measuring Landlord Assessment of Tenant Screening Reports. *Housing Policy Debate*, 1–27.

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., Cruxen, 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., Cruxen, 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), 100530.

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.**, & Bancelhon, M. **Cartographic Design of Cultural Maps.** *IEEE Computer Graphics and Applications*, 12–20.

Under Review and In Progress

So, W. Reparative Urban Science: Challenging Race-Neutral Ideology and Creating Data-Driven Public Narratives for Reparations. Revised and resubmitted to *Planning Theory and Practice*.

So, W. Race, Profit, and Algorithms: Neighborhood-level Analysis of iBuyers' Profit Margin. Under review in *Journal of Urban Affairs*.

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.** Under review in *the 2024 ACM Conference on Equity and Access in Algorithms, Mechanisms, and Optimization (EAAMO '24)*

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.*

Essays and Reports

- 2021 McElroy, E. & **So, W.** **Landlord Tech in Covid-19 Times.** *Metropolitics.*
- 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 **So, W.** & McElroy, E. **Landlord Tech Watch.** Project of the Anti-Eviction Mapping Project.
- 2021 **So, W.** **Singapore Calling.** MIT Senseable City Lab Project.
- 2020 **So, W.** **Cartographers of North Korea.** Independent Project.
- 2016 **So, W.** **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. <i>Kantar Information is Beautiful Awards. London, United Kingdom.</i>
2020	Honorable Mention. <i>Fast Co. Innovation by Design Awards (Data and Design). New York, NY.</i>
2017	Shortlist. <i>Kantar Information is Beautiful Awards. London, United Kingdom.</i>
2017	Finalist. <i>Fast Co. Innovation by Design Awards (Graphic Design and Data Visualization). Treepedia.</i>
2016	Research Grant (Third Grade). <i>Open Net Research Paper Competition. Seoul, Korea.</i>
2015	Longlist. <i>Kantar Information is Beautiful Awards. London, United Kingdom.</i>
2012	Finalist. <i>Adobe Design Achievement Awards (Browser Based Design). Toronto, Canada.</i>
2009	Semi-Finalist. <i>Adobe Design Achievement Awards (Application Development). New York, NY.</i>
2008	Finalist. <i>Adobe Design Achievement Awards (Designer-developer Collaboration). New York, NY.</i>

Selected Talks

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

Selected Exhibitions

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

Service

Reviewing	<i>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</i>
Committee	<i>PhD Admission Committee 2022-2023 (MIT DUSP). PhD Committee 2020 (MIT DUSP), Master in City Planning Admission Committee 2020 (MIT DUSP).</i>

Media

2024	<u>OpenAI's Chatbot Shows Racial Bias in Advising Home Buyers and Renters.</u> <i>New Scientist.</i>
2023	<u>Artificial Intelligence Is Driving Discrimination in the Housing Market.</u> <i>Jacobin.</i>
2022	<u>'Fair' AI could help redress bias against Black US homebuyers.</u> <i>New Scientist.</i>

- 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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