

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.**, & Bancilhon, 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.** Accepted to *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 Feminicide 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. **Feminicide & 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.** *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

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| '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

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| 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

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| 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

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| 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 antisubordination 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).*

Media

- 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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