Wonyoung So

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Education

Current **Ph.D. in Urban Science and Planning**, *Massachusetts Institute of Technology (MIT)*
Dissertation: Reparative Urban Science: Challenging Race-neutral Ideology and Creating Data-driven Public Narratives for Reparations
Committee: Catherine D'Ignazio, Justin Steil, Anette "Peko" Hosoi (MIT IDSS), Erin McElroy (University of Washington)

2020 **Master in City Planning**, *Massachusetts Institute of Technology (MIT)*
Thesis: Wesurvived.nyc: Participatory Mapping as a Political Act
Committee: Catherine D'Ignazio, Shannon Mattern (New School), Arvind Satyanarayan (MIT EECS)

2015 **Bachelor of Fine Arts in Visual Communication Design,** *Kookmin University*

Professional Experience

Sep 2021– **Graduate Teaching Assistant,** *Massachusetts Institute of Technology (MIT)*
Courses taught: Introduction to Spatial Analysis and GIS Laboratory, Workshop on Geographic Information Systems (GIS),
Crowd Sourced City: Civic Tech Prototyping, Quantitative Reasoning and Statistical Methods for Planning I, Thesis Clinic (Masters in City Planning)

Sep 2020– **Research Assistant & Technical Lead,** *Data + Feminism Lab, MIT DUSP*
Currently leading a research project titled *Housing Data Activism and Human Computer Interaction*, which seeks to understand the information needs of grassroots housing data activists who are increasingly producing and mobilizing datasets about evictions, landlords, housing discrimination, and more. Previously led *Audit the Streets,* a national-scale database and public archive examining commemoration and contestation in the built environment in the United States. Under the supervision of Catherine D'Ignazio.

2019–2020 **Researcher,** *MIT Visualization Group, MIT CSAIL*
Designed and developed *Cartographers of North Korea*, which aims to discuss collaborative strategies for mapping contested territories. Under the supervision of Arvind Satyanarayan.

2018–2020 **Graduate Research Assistant,** *MIT Senseable City Lab, MIT DUSP*
Designed and developed a data visualization for simulating the power of drive-by sensors, and designed and developed a data visualization for measuring urban segregation using cellphone data. Under the supervision of Fabio Duarte.

Jun 2019- Aug 2019 **Research Intern,** *Nokia Bell Labs, Social Dynamics Group*
Analyzed street names in cities (New York, Paris, Vienna) for quantifying culture of the cities, such as disproportion of naming genders. Also led a health data visualization project which aims to demonstrate a new diagnosis model using social media data and Recurrent Neural Networks. Under the supervision of Daniele Quercia.

2017–2018 **Data Visualization Specialist,** *Singapore-MIT Alliance for Research and Technology*

Dec 2015- Dec 2016 **Research Fellow & Data Visualization Specialist,** *MIT Senseable City Lab, MIT DUSP*
Worked with urban researchers to make urban data more communicative, visible and understandable. Was a lead data visualization designer on developing a data visualization to evaluate and compare urban canopy cover of world cities.
Was a lead data visualization designer of a multidisciplinary research team in collaboration with department of biology and civil engineering, working on finding algorithms to analyze the sewage network in Cambridge and producing various data visualizations that shows urban health pattern by sampling sewers. Under the supervison of Carlo Ratti

2017 **Curator,** *2017 Seoul Biennale of Architecture and Urbanism*
Curated Seoul Libre Maps with E Roon Kang. Commissioned by the 2017 Seoul Biennale of Architecture and Urbanism. It proposed ways to overcome social, technical, and policy constraints related to online mapping culture in Korea, by inviting artists to hold participatory workshops, to identify the new meaning of the map as a public good.

2011–2013 **Co-founder & Inside Director,** *Tumblbug inc*
Co-founded a crowdfunding platform for creative projects, which is now the largest one in South Korea (20M pledges as of 2017, Series Seed at 2012, Series A at 2015).
Led a team of developers and designers of the platform and played a major role as a community manager, who tries to find new creators to be involved in the platform and encouraging them to use it.

2013–2014 **Designer & Developer,** *Anyang Public Art Project (APAP)*
Produced new visual identity system, website, app and catalog of the Anyang Public Art Project, which is the biggest public art biennale in South Korea. Collaborated with E Roon Kang.

2009–2011 **Web Designer (Korea Navy Reserve),** *Republic of Korea Navy Headquarters, Public Affairs Department*
Worked as a web designer in public affairs department in Navy Headquarters.

2007–2008 **Web Designer,** *The Center for Youth and Cultural Studies, Yonsei University*
Worked as a web designer and designed *Ecosystem of Youth Education*.

Peer-Reviewed Publications

2023 **Race-Neutral vs Race-Conscious: Using Algorithmic Methods to Evaluate the Reparative Potential of Housing Programs.**
So, W. and D'Ignazio, C. (2023). *Big Data & Society*.

2022	**Which information matters? Measuring landlord assessment of tenant screening reports.** <u>So, W.</u> (2022). *Housing Policy Debate, 1–27.*
2022	**Beyond fairness: Reparative algorithms to address historical injustices of housing discrimination in the US.** <u>So, W.</u>, Lohia, P., Pimplikar, R., Hosoi, A. E., & D'Ignazio, C. (2022). *2022 ACM Conference on Fairness, Accountability, and Transparency (ACM FAccT)*, 988–1004. [video]
2022	**The Audit: Perils and possibilities for contesting oppression in the heritage landscape.** D'Ignazio, C., <u>So, W.</u>, & Ntim-Add-ae, N. (2022). *In The Routledge Handbook of Architecture, Urban Space and Politics, Volume I. Routledge.*
2022	**Towards Intersectional Feminist and Participatory ML: A Case Study in Supporting Feminicide Counterdata Collection.** Suresh, H., Movva, R., Dogan, A. L., Bhargava, R., Cruxen, I., Cuba, A. M., Taurino, G., <u>So, W.</u>, & D'Ignazio, C. *2022 ACM Conference on Fairness, Accountability, and Transparency (ACM FAccT)*, 667–678. **Best student paper award.**
2022	**Feminicide and counterdata production: Activist efforts to monitor and challenge gender-related violence.** D'Ignazio, C., Cruxen, I., Suárez Val, H., Cuba, A. M., Garcia-Montes, M., Fumega, S., Suresh, H., & <u>So, W.</u> *Patterns*, 3(7), 100530.
2020	**Cartographers of North Korea: Who are they and what are the technical, political, and social issues involved in mapping North Korea.** <u>So, W.</u>, & Duarte, F. (2020). *Geoforum*, 110, 147–156.
2020	**Humane Visual AI: Telling the stories behind a medical condition.** <u>So, W.</u>, Bogucka, E. P., Scepanovic, S., Joglekar, S., Zhou, K., & Quercia, D. (2020). *IEEE Transactions on Visualization and Computer Graphics*, 678–688.
2020	**Cartographic design of cultural maps.** Bogucka, E. P., Constantinides, M., Aiello, L. M., Quercia, D., <u>So, W.</u>, & Bancilhon, M. (2020). *IEEE Computer Graphics and Applications*, 12-20.

Under Review

2023	**Reparative Urban Science: Challenging Race-Neutral Ideology and Creating Data-Driven Public Narratives for Reparations.** <u>So, W.</u> (2023).
2023	**iBuyers and "Race for Profit": The Impact of Neighborhood Racial Composition on Profit Margin.** <u>So, W.</u> (2023).

In Preparation

2023	**OpenTSS: Countering Tenant Screening.** <u>So, W.</u> (2023).
2023	**The Impact of Tenant Screening Practices on Housing Choice Voucher holders.** <u>So, W.</u>, Gade, A, and Hangen, F. (2023).

Workshop Papers

2022	**News as Data for Activists: a case study in feminicide counterdata production.** Bhargava, R., Suresh, H., Dogan, A., <u>So, W.</u>, Suarez Val, H., Fumega, S., and D'Ignazio, C. (2022). *Computation + Journalism 2022. New York, NY.*
2020	**Feminicide & Machine Learning: Detecting Gender-based Violence to Strengthen Civil Sector Activism.** D'Ignazio, C., Val, H., Fumega, S., Suresh, H., Cruxen, I., <u>So, W.</u>, Martinez, A., and Garcia-Montes, M. (2020). *MD4SG '20: 4th Workshop on Mechanism Design for Social Good*, August 17-19, 2020. **New Horizons award for most inspiring paper.**
2016	**multilingual.js: A Javascript Library for Multilingual Typesetting.** Kang, E. & <u>So, W.</u> (2016). *LetterSeed 13: Technology and Typography. Korean Society of Typography. Seoul, Korea.*
2016	**Zeroboard, Easy-to-install BBS—Rough sketch for a techno-cultural maker history of the Korean internet.** <u>So, W.</u>, Koh, A., & Kang, E. (2016). *Open Net Research Paper Competition, Seoul, Korea.*

Essays and Reports

2021	**Landlord Tech in Covid-19 Times.** McElroy, E. & <u>So, W.</u> (2021). *Metropolitics.*
2021	**Keeping an Eye on Landlord Tech.** McElroy, E, <u>So, W.</u>, and Weber, N. (2021). *Shelterforce.*
2017	**Urban Data Visualization.** <u>So, W.</u> (2017). *May 2017 Landscape Architecture Korea, Seoul, Korea.*
2017	**Seoul Libre Maps.** <u>So, W.</u> (2017). In *Imminent Commons: Live from Seoul. Actar Publishers. New York, NY.*

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	**Presidential Fellowship,** *MIT*
2018-2020	**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. *New York, NY.*
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*
Apr 2021	**What could an antisubordination visualization be?** *S-H-O-W Conference. Amsterdam, Netherlands.*
Mar 2021	**What could an antisubordination visualization be?** *EPFL, Lausanne, Switzerland.*
Jan 2021	**What could an antisubordination visualization be?** *URP 550: Planning Representation & Communication. 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 Convention Center. Vancouver, BC, Canada.*
Oct 2017	**Treepedia: for civically minded people who care about green city.** *IEEE VIS Arts Program: Artist Talk. Phoenix Convention Center. 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, Cambridge, MA.*

Exhibition and Performances

| 2022 | **Cartographers of North Korea.** *MIT Museum, Cambridge, MA.* |
| 2022 | **American DNA.** *MIT Museum, Cambridge, MA.* |

2021	**Cartographers of North Korea.** *2021 Seoul Biennale of Architecture and Urbanism, Seoul, Korea.*
2019	**Cartographers of North Korea,** *IEEE VIS '19 Arts Program Exhibition Track. Vancouver Convention Centre. Vancouver, BC, Canada.*
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. Brookyln, NY.*
2017	**Treepedia & Underworlds.** *Big Bang Data. MIT Museum. Cambridge, MA.*
2017	**Treepedia.** *IEEE VIS '17 Arts Program Exhibition Track. Phoenix Convention Center. Phoenix, AZ.*
2017	**Underworlds in Seoul.** *2017 Seoul Biennale of Architecture and Urbanism. Donuimoon Museum Village. Seoul, Korea.*
2017	**Seoul Libre Maps.** *2017 Seoul Biennale of Architecture and Urbanism. Dongdaemun Design Plaza. Seoul, Korea.*
2016	**International Water Banking Association.** *The Chronicles of Prepper Part 1. 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.*
2012	**VJing Artworks.** *Younha Comeback Concert [RUN]. Lotte Art Hall. Busan, Korea.*
2008	**VJing Artworks.** *Jaehyung Jung [Le Voyageur for Jacqueline]. Baekam Art hall, Seoul, Korea.*
2008	**VJing Artworks.** *Peppertones Concert. Ewha High School Centennial Memorial Hall. Seoul, Korea.*
2008	**Filtering & Connecting.** *Bonding Company. Lift Asia '09. ICC Jeju Convention Center. Jeju, Korea.*
2007	**ccRealMixter.** *People Art Technology. Namsan Drama Center. Seoul, Korea.*

Service

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

Selected Skills

Programming Languages: Javascript (+10 yrs), Ruby (+10 yrs). Python (+5 yrs), R (+4 yrs)

Data Visualization: Deep knowledge of how to produce meaningful visualization and storytelling.

Web Development: Fluent with open source database and web server including Ruby on Rails, PostgreSQL, MySQL, Nginx and Ubuntu Linux.

GIS, Quantitative and Spatial Analysis: Knowledge of web mapping and open source technology including Mapbox, Open StreetMap, QGIS, PostGIS and Turf.js.

Languages: Korean (Native) and English (Fluent).