Nina M. Lutz

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Experienced researcher and NSF Fellowship awardee seeking Fall 2023 PhD opportunities to examine visual culture at scale via computational and social sciences.

Education

Massachusetts Institute of Technology
M.S in Media Arts and Sciences

Massachusetts Institute of Technology
B.S in Computer Science and Engineering with Design

Work and Research Experience

Research Assistant (Part Time Contract with EDF) *June 2022 - Present*
Working part time as a research assistant with Dr. Katlyn Turner on a systems analysis for the Environmental Defense Fund (EDF). We are performing a systems architecture analysis of equity and justice in the climate innovation space for the Environmental Defense Fund (EDF) to evaluate their current policies and practices. Artifacts will include a white paper, data system, and facilitated programming with upper management at EDF.

Product Manager, Redfin *2021 - Present*
Collaborating with UX research, design, and engineering to spec out and deploy new products for consumers and real estate agents. Using data analysis to benchmark products and surface new findings for other product and strategy decisions. Roadmapping 1-3 year product planning, research, and priorities. Negotiating for external engineering vendors across multiple stakeholders. Integrating accessibility standards into departmental interfaces. Presenting and writing for executive audiences across multiple departments.

Research Assistant, MIT Media Lab *2015 - 2021*
Research management and software development ranging from exhibition preparations for multiple museums, computer vision research, and interactive web art works. Managing off site deployments and sessions for a variety of academic and industrial institutes internationally and domestically. Mentoring undergraduate students. Writing proposals and scoping projects in teams and for independent research for publication and exhibition. Written and oral presentations at several professional and educational venues.

Graduate Fellow, MIT Undergraduate Research Opportunities Program (UROP) *2020-2021*
Developed guides and workshops for graduate students that were supervising undergraduate researchers or planning undergraduate research projects. Held office hours and developed programming for undergraduate students trying to get into research positions.

Research Supervisor *2019 - 2021*
Mentoring multiple undergraduates with their research and projects, including planning, overseeing execution, and evaluation.

Instructor; MIT Department of Urban Planning *2019*
Developing a one month intensive and semester long courses. Teaching GIS data processing and computation techniques, including implementing data structures and algorithms.

Teaching Assistant *2016 - 2019*
Assisted with multiple courses in Computer Science, Design, and Urban Planning.

Software Engineering, Apple *2017*
Writing software for localization studies and services across a range of Apple products. Utilizing machine learning and various data analysis techniques to understand user trends.

Skills

Software: Java, Python, C++, C, JavaScript, Processing, Unity, Openframeworks

Web: Javascript, CSS, HTML, SQL, Ruby on Rails, three.js, OpenGL, p5.js, d3.js

Electronics: Arduino, Eagle, PID, general electronics and controllers, circuit design

Fabrication: CAD (Rhinoceros and Grasshopper), Photoshop, Illustrator, Lightroom, InDesign, Drafting, Laser cutter, 3D Printer, CNC, Woodworking, Hand tools, Water Jet

Product Management: JIRA, Google Suite, Figma, Heap Analytics

Misc: Tableu, QGIS, ArcGIS, Madmapper, Projection mapping, Optics

Publications

[In Preparation] *EDF Climate Innovation and Equity, Diversity, and Inclusion: a Landscape Analysis*. K. Turner, **N. Lutz**, K. Acuff. 2022.

A Methodology For Digitally Augmented Physical Shrines. ACM CHI 2020, Workshop Paper in HCI at End of Life. April 2020 **N. Lutz.** [Presented remotely]

Colloidal Luminaries for Architectural Lighting. ACM BuildSys 2019, Demonstration Abstract. November 2019 **N. Lutz**, V. M. Bove.

Making Up the Unreal. Journal of Design and Science, MIT Press, 23 Oct. 2019, https://jods.mitpress.mit.edu/pub/ristj7wg. **Lutz, N.**

Routing Optimizing Algorithm for Electric Vehicles Applied in North Italy. IEEE Industrial and Commercial Power Systems Europe (2018) M Longo, P Maffezzoni, ***NM Lutz****, L Daniel, X Lu.*

A predictive model to support the widespread diffusion of electric mobility. IEEE International Conference on Models and Technologies for Intelligent Transportation Systems (2017). M Longo, P Maffezzoni, D Zaninelli, **NM Lutz**, L Daniel

Analysis of Tourism Dynamics and Special Events Through Mobile Phone Data . Bloomberg Data for Good Conference (2016). Y Leng, A Noriega, AS Pentland, I Winder, **N Lutz**, L Alonso.

Teaching

Invited Guest Lecturer, Gallaudet University *April 2021*
Course: Advanced Digital Media (3 week subunit) **I** Professor: Max Kazemzadeh, PhD

Co-Instructor, MIT Department of Media Arts and Sciences *Summer 2021*
Course: DeCentering: Aesthetic Labor and Performance **I** Co-Instructor: Katlyn Turner, PhD

Teaching Assistant, MIT Department of Urban Studies and Planning *2019*
Course: 11.S187: Hack the City **I** Instructor: Yuan Lai, PhD

Co-Instructor, MIT Department of Urban Studies and Planning *2018*
Course: 11.S195: Computational Urban Science Workshop **I** Co-Instructor: Ira Winder

Teaching Assistant, MIT Department of Architecture *2019*
Course: 4.043: Advanced Interaction Design **I** Instructor: Marcelo Cohelo, PhD

Teaching Assistant, MIT Department of Media Arts and Sciences *2016 - 2017*
Course: MAS.A19: Designing Consumer Electronics I Professor: V. Michael Bove, PhD

Exhibits, Demonstrations, Press

Exhibits:

"How have you transformed since 2020?"; Paseo Arts Festival — *September 2022*
Infinity Tunnel; Instruments of Vision; MIT Museum Gallery — *Dec 2019 - March 2020*
Turning Light; Council Arts MIT Arts on the Radar — *Sept 2019*
Connected Coral; MIT Museum — *Nov 2018 - Apr 2019*

Demonstrations:

Colloidal Luminaries; BuildSys 2019; Demonstration Award — *Oct 2019*
Bits and Bricks; IEEE FTC with Ira Winder — *Nov 2017*
MIT Media Lab Members Week — *Twice yearly, 2015 - 2021*

Press

New York Times. "A Portrait of U.S. Linguistic Diversity, in Sound and Sign." — *Mar 2021*

Research Deployments

GSK Places Project | Upper Providence, PA | MIT Media Lab City Science — *Spring 2018*
Senior software developer for an internal tool for architectural site planning at GSK. Built physical interface on site and led workshops.

GSK UK Manufacturing | Stevenage, UK | MIT Media Lab City Science — *Summer 2017*
Assisted with deploying, documenting technology and front end development.

Singapore Pedestrian Accessibility | Singapore and Cambridge, MA — *Summer 2016*
Assisted with developing interface that was deployed in Singapore and workshopped in Cambridge. Lead design part of workshop. Built backend and data processing of software.

Fellowships

National Science Foundation (NSF) CSGrad4Us Fellowship — *Awarded 2022*
This fellowship, providing the same structure as the NSF GRFP, is awarded to select working professionals seeking to pursue a PhD in Computer Science or related fields.

MIT Graduate Fellow for Undergraduate Research Office — *2020-2021*
One year appointment to create programming and resources for research supervisors and undergraduates seeking to get involved in research.

MIT Graduate Community Fellow for Institute Community Equity Office — *2019-2020*
One year appointment to assist in graphic design and event planning for the MIT Institute Community Equity Office.

Grants, Awards

Council for the Arts MIT Schnitzer Prize Honorable Mention — *2021*
ACM SIGMOBILE Travel Grant — *2019*
ACM Best Demonstration Award BuildSys — *2019*
Council for the Arts MIT Director's Grant — *2019*
Best Demonstration at IEEE FTC — *2017*
MIT Media Lab Members Week Front Page Feature — *2016 - 2017*

Invited Talks, Presentations, Lectures, and Critique

Guest Lectures and Invited Talks:

11.S187: Hack the City — *Spring 2020*
11.526: Land Use and Transportation Planning — *Spring 2020*
Luxembourg Fashion Week — *Fall 2019*

Invited Critic:

11.S187: Hack the City	*Winter 2020*
11.205 Introduction to Spatial Analysis	*Spring 2019*
4.043: Advanced Interaction Design Studio	*Spring 2019*
11.S195: Computational Urban Science Workshop	*Spring 2018*

Undergraduate Students Advised

Spring 2021: Skylar Kolisko (Wellesley)
Spring 2020: Omoruyi E Atekha (MIT, Stanford)
Fall 2019: Omoruyi E Atekha (MIT, Stanford), Elliot Seaman (MIT), Jessica Wang (MIT)
Summer 2019: Elliot Seaman (MIT), Jessica Wang (MIT), Mikayla Bufford (U Madison)
Spring 2019: Elliot Seaman (MIT)
Spring 2018: Max Raven (MIT)

Committees, Community, and Outreach

Redfin, *Intern Mentor*	*2022*
Paseo Foundation, *Instructor*	*2020-2022*
MIT Media Lab Student Committee, *Large Events Chair*	*2019-2021*
Urban Science Steering Committee, *Student Member*	*2019*
Clubes de Ciencia, *Instructor*	*2019*
Institute Community Equity Office Graduate Community Fellow	*2018*

References available upon requests