JONATHAN ZONG

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EDUCATION

Massachusetts Institute of Technology

2018–2024	Ph.D. Electrical Engineering & Computer Science
	Minor in Science, Technology, and Society
	Advisor: Arvind Satyanarayan
2018–2020	S.M. Electrical Engineering & Computer Science

Princeton University

2014–2018	B.S.E. Computer Science
	Advisor: J. Nathan Matias
	Certificate in Visual Arts
	Advisor: David Reinfurt

University of Oxford

Spring 2017	Visiting Student

EMPLOYMENT

University of Colorado Boulder, Department of Information Science

2025–	Assistant Professor

Harvard University, Berkman Klein Center for Internet and Society

2025—	Faculty Associate
2024–2025	Fellow

Massachusetts Institute of Technology, MIT Visualization Group

2024–2025	Postdoctoral Associate
2018–2024	Graduate Researcher

Cornell University, Citizens and Technology Lab

Summer 2020	Graduate Research Fellow

Google, AI UX Team

Summer 2018	UX Engineering Intern

Google, Material UX Team

Summer 2017	UX Engineering Intern

Linked by Air

Summer 2016	Software and Design Intern

Square

Summer 2015	Software Engineering Intern

Coursera

Summer 2014	Software Engineering Intern (KPCB Engineering Fellow)

AWARDS & HONORS

2023	**Forbes 30 Under 30 (Science)**
2022	**MIT Morningside Academy for Design Fellowship**
	MIT Prize for Open Data Honorable Mention
	Fast Company Innovation By Design Awards Finalist
2020	**Schnitzer Prize in the Visual Arts, MIT**
2019	**Paul and Daisy Soros Fellowship for New Americans**
	NSF Graduate Research Fellowship
	Hertz Foundation Fellowship Finalist
2018	**Lucas Award in Visual Arts, Princeton University**
	NSF Graduate Research Fellowship Honorable Mention
2017	**Santos-Dumont Prize for Innovation, Princeton University**

	Tau Beta Pi Scholarship
	Students All to Chaumont 3rd Place, Centre National du Graphisme
	Peter B. Lewis Summer Fund for the Arts
2016	**Facebook Global Hackathon Finals Honorable Mention**
2015	**Greylock Partners Hackfest, 1st Place**
2014	**HackRice, 1st Place, Rice University**
	KPCB Engineering Fellowship
	MIT THINK Scholars
	Interact Fellowship
2012	**Eagle Scout**

PUBLICATIONS

PEER-REVIEWED PUBLICATIONS

2025. **Benthic: Perceptually Congruent Structures for Accessible Charts and Diagrams**. Catherine Mei*, Josh Pollock*, Daniel Hajas, <u>Jonathan Zong</u>, Arvind Satyanarayan. *ACM SIGACCESS Conference on Computers and Accessibility (ACM ASSETS)*.

2025. **Tactile Vega-Lite: Rapidly Prototyping Tactile Charts with Smart Defaults**. Mengzhu (Katie) Chen, Isabella Pedraza Pineros, Arvind Satyanarayan, <u>Jonathan Zong</u>. *ACM Conference on Human Factors in Computing Systems (ACM CHI)*.

2024. **Umwelt: Accessible Structured Editing of Multi-Modal Data Representations**. <u>Jonathan Zong</u>, Isabella Pedraza Pineros, Mengzhu (Katie) Chen, Daniel Hajas, Arvind Satyanarayan. *ACM Conference on Human Factors in Computing Systems (ACM CHI)*.

2024. **"Customization is Key": Reconfigurable Textual Tokens for Accessible Data Visualizations**. Shuli Jones, Isabella Pedraza Pineros, Daniel Hajas, <u>Jonathan Zong</u>, Arvind Satyanarayan. *ACM Conference on Human Factors in Computing Systems (ACM CHI)*.

2024. **Beyond Dark Patterns: A Concept-Based Framework for Ethical Software Design**. Evan Caragay, Katherine Xiong, <u>Jonathan Zong</u>, Daniel Jackson. *ACM Conference on Human Factors in Computing Systems (ACM CHI)*.

2024. **Data Refusal From Below: A Framework for Understanding, Evaluating, and Envisioning Refusal as Design**. <u>Jonathan Zong</u>, J. Nathan Matias. *ACM Journal on Responsible Computing*.

2023. **Animated Vega-Lite: Unifying Animation with a Grammar of Interactive Graphics**. <u>Jonathan Zong</u>*, Josh Pollock*, Dylan Wootton, Arvind Satyanarayan. *IEEE Transactions on Visualization and Computer Graphics (IEEE VIS)*.

2022. **Rich Screen Reader Experiences for Accessible Data Visualization**. <u>Jonathan Zong</u>*, Crystal Lee*, Alan Lundgard*, JiWoong Jang, Daniel Hajas, Arvind Satyanarayan. *Computer Graphics Forum (EuroVis)*. **Best Paper Honorable Mention**

2022. **Bartleby: Procedural and Substantive Ethics in the Design of Research Ethics Systems**. <u>Jonathan Zong</u>, J. Nathan Matias. *Social Media + Society*.

2021. **Lyra 2: Designing Interactive Visualizations by Demonstration**. <u>Jonathan Zong</u>, Dhiraj Barnwal, Rupayan Neogy, Arvind Satyanarayan. *IEEE Transactions on Visualization and Computer Graphics (IEEE VIS)*.

2020. **Representing Real-Time Multi-User Collaboration in Visualizations**. Rupayan Neogy, <u>Jonathan Zong</u>, Arvind Satyanarayan. *IEEE Visualization Conference (VIS)*.

2019. **Unruly Cyborgs: The Relational Set Designs of Isamu Noguchi**. <u>Jonathan Zong</u>. *Liminalities: A Journal of Performance Studies*.

EDITED PUBLICATIONS

2023. **Pointing, Mutual Intelligibility, and the Seeing Subject in HCI**. <u>Jonathan Zong</u>. *Interface Critique*.

2020. **From Individual Consent to Collective Refusal**. <u>Jonathan Zong</u>. *ACM XRDS (Crossroads)*.

WORKSHOPS, CONFERENCES, POSTERS, AND DEMOS

2025. **Using Real Names of Disabled Participant-Contributors to Practice Citational Justice in Accessibility**. Jonathan Zong. *IEEE VIS Accessibility Workshop*.

2022. **Olli: An Extensible Visualization Library for Screen Reader Accessibility**. Matt Blanco, Jonathan Zong, Arvind Satyanarayan. *IEEE VIS Posters*.

2021. **Design Spaces of Domain-Specific Languages: Comparing and Contrasting Approaches in PL and HCI**. Jonathan Zong*, Josh Pollock*, Dylan Wootton, Arvind Satyanarayan. *PLATEAU Workshop on the Intersection of HCI and PL*.

2021. **Pointing, Mutual Intelligibility, and the Seeing Subject in HCI**. Jonathan Zong. *Computer Mouse Conference*.

2020. **The (Minimal) Persuasive Advantage of Political Video over Text**. Chloe Wittenberg, Adam Berinsky, Jonathan Zong, David Rand. *International Conference on Computational Social Science*.

2020. **Lyra: An Interface for Designing Interactive Visualizations**. Jonathan Zong, Dhiraj Barnwal, Rupayan Neogy, Arvind Satyanarayan. *Computation + Journalism Symposium*.

2020. **Collective Refusal and the Limits of Informed Consent for Data Protection**. Jonathan Zong, J. Nathan Matias. *Data & Society Contested Data Workshop*.

2018. **Automated Debriefing: Interface for Large-Scale Research Ethics**. Jonathan Zong, J. Nathan Matias. *Companion of the 2018 ACM Conference on Computer Supported Cooperative Work and Social Computing*. **Best Demo Award**

THESES

2024. **Designing for Participation and Power in Data Collection and Analysis**. *Ph.D. Thesis, Massachusetts Institute of Technology*.

2018. **Empirically Studying Research Ethics with Interface Designs for Debriefing Online Field Experiments**. *B.S.E. Thesis, Princeton University*.

TALKS & PRESENTATIONS

INVITED TALKS

Data Refusal in Conversation with *List Projects 31: Kite*
   2025. MIT List Visual Arts Center

Accessible Data Representations for Screen Reader Users
   2024. Fathom Information Design
   2024. Quantitative and Digital Humanities Speaker Series, Emory University

Participation and Power in Data Collection and Analysis
   2025. HCI Seminar, Columbia University
   2024. Computer Science Seminar, Brandeis University
   2024. Information Science Seminar, University of Colorado Boulder
   2024. Ethical Tech Working Group, Berkman Klein Center for Internet and Society
   2023. Penn HCI Group, University of Pennsylvania

Accessible Data Visualization for Blind and Low Vision Users
   2023. MIT Morningside Academy for Design

Designing Data Representations for Embodiment and Refusal
   2022. Information Science Seminar, Cornell University

Rich Screen Reader Experiences for Accessible Data Visualization
   2022. HackNY Fellowship Speaker Series
   2022. Design for Assistive Technology, MIT Beaver Works Summer Institute
   2022. DiverseAbilities Employee Resource Group, New York Department of Transportation

Designing Research Ethics Systems
   2022. Accountable Algorithms Reading Group, Northeastern University

Art, Concepts, Visualizations
2022. Interact Fellowship Symposium

Designing Systems to Theorize Collective Power
2020. Digital Theory Lab, NYU Media, Culture, and Communication

Layered Abstractions for Interactive Visualization Design
2020. Digital Structures Group, MIT Department of Architecture

"The Most Liberal of Arts"
2019. Lewis Center for the Arts, Princeton University

Public Accountability in Research Ethics
2018. CivilServant Research Summit, MIT Media Lab

CONFERENCE TALKS AND PANELS

Olli: Accessible Data Representations for Screen Reader Users
2023. Information+ Conference

Data Refusal From Below: A Framework for Understanding, Evaluating, and Envisioning Refusal as Design
2023. Panel: Resistance · AoIR 2023

Consent: A Research and Design Lens for Human-Computer Interaction (Panel)
2022. CSCW 2022

Public Display and Biometric Sans: Embodied Writing in the Age of Data
2020. Before and Beyond Typography, Stanford University Department of History

In Our Own Image: The Autonomy of Artificial Bodies in Synthetic Porn
2019. Panel: Internet Connection · Theorizing the Web

INVITED SEMINAR PARTICIPATION

What You Hear is What You See? Integrating Sonification and Visualization
2025. Schloss Dagstuhl – Leibniz Center for Informatics

PUBLIC SCHOLARSHIP

OP-EDS

2019. **The Struggle to Democratize MIT**. Rodrigo Ochigame, Alan Lundgard, Alonso Espinosa Dominguez, Jonathan Zong, Gabrielle Ballard, Sally Haslanger, Edmund Bertschinger, Mani Mengiste, Ruth Perry. *The Tech (MIT)*.

2019. **Consent Is Not an Ethical Rubber Stamp**. Crystal Lee*, Jonathan Zong*. *Slate*.

2018. **Researching the Researchers: Ethics and Privacy in Institutional Research**. Jonathan Zong. *Nassau Weekly*.

CONVERSATIONS

2022. **CAPSULE No. 1**. Cammie Lee, Megan Pai.

2021. **Form, Content, Data, Bodies: Jonathan Zong and Beth Semel on Biometric Sans**. Jonathan Zong, Beth Semel. *Somatosphere*.

2021. **Holly Herndon in conversation with Tabea Nixdorff and Jonathan Zong**. *Version Space*.

2018. **w-t-f: a conversation with Eric Li and Jonathan Zong**. *Lewis Center for the Arts, Princeton University*.

DATA JOURNALISM

2021. **The Data Visualizations Behind COVID-19 Skepticism**. Crystal Lee, Jonathan Zong, Anna Arpaci-Dusseau, Katherine Huang, Mateo Monterde, Ethan Nevidomsky, Tanya Yang, Anna Meurer, Soomin Chun, Arvind Satyanarayan. *MIT Visualization Group*.

POLICY ENGAGEMENT

2024. **Respecting blind/low-vision user agency when generating AI descriptions**. <u>Jonathan Zong</u>, Arvind Satyanarayan. *Public comment to U.S. Access Board*.

EXHIBITIONS	2023	**Surveillance: From Vision to Data**. *Collection of Historical Scientific Instruments, Harvard University.*
	2020	**WRECKED ALPHABET**. *Marcel Broodthaers Society of America.*
		BODY TEXT. *Wiesner Gallery, MIT.*
	2018	**w-t-f**. *Lucas Gallery, Princeton University.*
		Internet Yami-Ichi. *Rhizome, New Art Dealers Alliance.*
	2017	***a graphic design exhibition***. *Princeton University and IN-FO.CO, Los Angeles.*
		Faire Signe. *Biennale de design graphique, Chaumont, France.*

COLLECTIONS	2018	**Van Alan Clark, Jr. Library, School of the Museum of Fine Arts, Tufts University** `Everyone Should`
	2016	**Graphic Arts Collection, Firestone Library, Princeton University** `Nap Poems`

ART BOOK FAIRS	2019	**Tiny Tech Zines, Navel LA** `with Free Radicals`
	2019	**Press Play, Pioneer Works** `with Tech Zine Fair`
	2018	**Odds and Ends, Yale University** **Zine Soup 3.0: Makers Market, Chinatown Soup** **NY Tech Zine Fair, School for Poetic Computation** **Boston Art Book Fair, Boston Center for the Arts**

TEACHING

INSTRUCTOR

2025. **User-Centered Design**. University of Colorado Boulder

2020. **AI, Justice, Imagination: Technology and Speculative Fiction**. Tufts University Experimental College
`Visiting Lecturer (Adjunct) (co-instructor with Janet Zong York)`

GUEST LECTURER / SPEAKER

2025. **Intro to Sociotechnical Systems and HCI**. Brown University

2023. **Crowd Sourced City: Data Activism Edition**. MIT Department of Urban Studies and Planning

2023. **Transversal Design for Social Impact**. MIT Program in Art, Culture, and Technology

2022. **Transformations in Engineering and the Arts**. Princeton University

GUEST CRITIC

2022. **i-n-t-e-r-f-a-c-e**. Princeton University

ADVISEES	**M.S. STUDENTS**	
	Matthew Nesselrodt	

MENTORING AS A PHD STUDENT	**M.ENG. STUDENTS**	
	2023–24	Isabella Pedraza Pineros, Katie Chen
	Summer 2023	Evan Caragay (**Charles & Jennifer Johnson MEng Thesis Award**), Katherine Xiong
	2022–23	Shuli Jones (**David Adler MEng Thesis Award**)

2020–21	EJ Sefah, Katie Bacher
2019–20	Rupayan Neogy

UNDERGRADUATE STUDENTS

Spring 2023	Isabella Pedraza Pineros
Fall 2022	Mufaro Makiwa
Spring/Summer 2022	Matt Blanco (Northeastern)
Summer 2021	JiWoong Jang (CMU)
Fall 2020	Anna Arpaci-Dusseau, Katherine Huang, Mateo Monterde, Ethan Nevidomsky, Tanya Yang, Anna Meurer, Soomin Chun

SERVICE

PEER REVIEWING

2025	ACM CHI, Eurovis, IEEE TVCG, IEEE VIS
2024	ACM CHI, Research Ethics (SAGE Journal), ACM DIS, Data by Design (community review for MIT Press book), Journal of Visualization and Interaction, Assistive Technology (T&F Journal)
2023	ACM CHI, IEEE VIS, IEEE TVCG, ACM SIGGRAPH, PacificVis Visual Data Storytelling Contest
2022	ACM CHI (**Special Recognition for Outstanding Review**), IEEE VIS, Journal of Empirical Research on Human Research Ethics
2021	IEEE VIS

OTHER ACADEMIC SERVICE

2024	Selection Committee, MIT Student Art Awards

EVENT ORGANIZING

2022	Princeton University Workshop on Ethics of Field Experiments

COMMUNITY BUILDING & ACTIVISM

2020–2022	MIT Graduate Student Union, Organizer
2020–2021	MIT Human-Computer Interaction, Social Committee
2019–20	MIT Students Against War

SELECTED PRESS

FEATURED

2025. **A new way to make graphs more accessible to blind and low-vision readers**. *MIT News*.

2024. **Military Eye Injuries With Risk of Cataracts and Umwelt Software For Accessible Charts**. *WYPL-FM 89.3 Eye on Vision*.

2024. **New software enables blind and low-vision users to create interactive, accessible charts**. *MIT News*.

2024. **Q&A: How refusal can be an act of design**. *MIT News*.

2023. **Improving accessibility of online graphics for blind users**. *MIT News*.

2023. **Student Spotlight: Jonathan Zong**. *MIT CSAIL*.

2023. **MIT MAD Fellow Improves Accessibility of Online Graphics for Blind Users**. *MIT Morningside Academy for Design*.

2023. **These tools help visually impaired scientists read data and journals**. *Nature Technology Features*.

2022. **Developing community around design**. *MIT News*.

2022. **Making data visualization more accessible for blind and low-vision individuals**. *MIT News*.

2022. **3 Questions: Designing software for research ethics**. *MIT News*.

2021. **Helping data journalists create interactive graphics**. *MIT CSAIL News*.

2020. **Forty artists elide, dismantle, and politicize the alphabet**. *Art & Education*.

2020. **Students Plumb Barriers of Sound, Space, and Sight at MIT**. *Arts at MIT*.

2020. **Bezos, Bodies, and Backprop**. *The Tech (MIT)*.

2018. **PolitEcho: A Mirror for the "Daily Me"**. *Frontier Magazine*.

2017. **Challenge everything you think — democracy depends on it**. *The Guardian*.

2017. **How to Escape Your Political Bubble for a Clearer View**. *The New York Times*.

2016. **This browser extension shows how biased your social media feed is**. *A.V. Club*.

2016. **Find out just how biased your Facebook feed is with this Chrome extension**. *Mashable*.

2016. **A Browser Extension That Shows You Your Filter Bubble**. *New York Magazine*.

2016. **Transformations: Students find creativity at intersection of art and engineering**. *Princeton University News*.

2013. **Houston's Hackers Gather to Help City Solve Problems**. *Xconomy*.

QUOTED

2023. **Making chemistry accessible to all**. *Dell Technologies Perspectives*.

2022. **MIT grad students vote to form labor union**. *Boston Business Journal*.

2022. **After weeks of wrangling, MIT's grad student union will come to a vote this week**. *WBUR*.

2021. **Digital exclusions: mental health and digital life**. *Our Sick Society Podcast*.

2020. **Facial Recognition Software: Masks, Ethics & The Future**. *Forbes*.

2019. **The Dark Implications of Facial Swap Filter Technology**. *Paper Magazine*.