

# Mandi Cai

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## Research Interests

I am interested in the communication of real-time election results and election forecasts to the public, data and A.I. literacy, and digital tools that open up venues for participation in our governance.

## Education

- 2022 - present    **PhD, Computer Science and Communication**  
**Northwestern University, Evanston, IL**  
Advisor: Matthew Kay
- 2013 - 2017    **Bachelor of Science, Honors, Cognitive Neuroscience**  
**Brown University, Providence, RI**  
Advisor: William H. Warren  
Thesis: The Relationship Between Energy Efficiency and Dynamical Stability in Human Walking

## Publications

- 2024    **Watching the Election Sausage Get Made: How Data Journalists Visualize the Vote Counting Process in U.S. Elections**  
*Mandi Cai, Matthew Kay*  
CHI 2024: ACM Conference on Human Factors in Computing Systems
- 2023    **Best Paper Award • Swaying the Public? Impacts of Election Forecast Visualizations on Emotion, Trust, and Intention in the 2022 U.S. Midterms**  
Fumeng Yang, *Mandi Cai*, Chloe Mortenson, Hoda Fakhari, Ayse Deniz Lokmanoglu, Jessica Hullman, Steven Franconeri, Nicholas Diakopoulos, Erik Nisbet, Matthew Kay  
VIS 2023: IEEE Transactions on Visualization and Computer Graphics

## Workshop Proceedings

- 2024    **The Role of Data Journalists as Educators**  
*Mandi Cai*  
In proceedings of the Toward a More Comprehensive Understanding of Visualization Literacy workshop at the 2024 ACM Conference on Human Factors in Computing Systems (CHI)

- 2023 **Motivations, Goals, and Pathways for AI Literacy for Journalism**  
*Mandi Cai, Sachita Nishal*  
In proceedings of the AI Literacy workshop at the 2023 ACM Conference on Human Factors in Computing Systems (CHI)

## Work Experience

- 2019 - 2022 **Designer and Developer**  
**The Texas Tribune, Austin, TX**  
*Full list of bylines: [texastribune.org/about/staff/mandi-cai/](https://texastribune.org/about/staff/mandi-cai/)*  
Developed and maintained the Tribune's coronavirus tracker. Led front end development of the Tribune's explorer of employee salaries from 100+ Texas state agencies. Managed the data visuals team's graphics kit, the template for 300+ data projects built in Node.js.
- 2017- 2019 **Interaction Designer**  
**BioBright, Boston, MA**  
Designed demos of a virtual assistant for scientists, demonstrating biased voice transcription using keyword detection capabilities to assist scientists during lab experiments. Created data visualizations using D3.js of lab equipment log files to help scientists catch equipment errors.
- 2016 - 2017 **Research and Design Intern**  
**Township, Providence, RI**  
Built a 12-room "virtual workspace" in virtual reality using Unity3D and VRDK C# scripts. Researched user experience with augmented reality, virtual reality and chatbots through user surveys, cognitive walkthroughs and 1:1 interviews.

## Teaching

- 2023 - present **Teaching Assistant, Human-Computer Interaction**  
Northwestern University, Evanston, IL
- 2022 **Teaching Assistant, Introduction to Coding for Journalists**  
The University of Texas at Austin, Austin, TX
- 2019 - 2022 **Mentor for Student Fellows**  
The Texas Tribune, Austin, TX
- 2017 **Teaching Assistant, Introduction to Design Studio**  
Brown University, Providence, RI

## Leadership

- 2023 - present **Member, Northwestern Computer Science PhD Advisory Council**  
Northwestern University, Evanston, IL

- 2014 - 2017    **Cofounder, Artbeat**  
Brown University, Providence, RI
- 2015 - 2017    **Cofounder, Cognitive Neuroscience Departmental Undergraduate Group**  
Brown University, Providence, RI
- 2015 - 2016    **Public Relations Coordinator, Better World x Design**  
Brown University, Rhode Island School of Design, Providence, RI

## Speaking

- 2023    **AI Literacy for News Reporting**  
Panel, Journalism and Women Symposium, Chicago, IL
- 2023    **Ending the horse race: What value can we find in election results reporting?**  
Workshop, SRCCON, Minneapolis, MN
- 2019    **Data visualization and visual storytelling**  
Talk, She+ Geeks Out, Boston, MA
- 2018    **Visualizing your data in JavaScript**  
Talk, Boston Code Camp, Boston, MA
- 2017    **Stay in Your Lane: Challenging the Status Quo in Science**  
Talk, Better World x Design, Providence, RI

## Awards

- 2024    **NSF Graduate Research Fellowship**
- 2023    **Northwestern Segal Design Institute Design Cluster Fellowship (1-2 academic quarters of funding)**
- 2023    **Northwestern Jaharis Family Fellowship**
- 2020    **Society of News Design Award of Excellence for Use of Data**
- 2019    **Sigma Delta Chi Award for Informational Graphics**
- 2017    **2nd Place Best Hack to Save Homeless Pets, Stanford University TreeHacks**
- 2017    **Inductee, Brown University Sigma Xi Honor Society**
- 2016    **Finalist, Massachusetts Institute of Technology Hacking Medicine**
- 2016    **Karen T. Romer Undergraduate Teaching and Research Award (\$3500)**

## **Skills**

### **Technical**

Data journalism, data visualization, data analysis, frontend web development, HTML/CSS, JavaScript, Python, D3.js, Node.js, Adobe Creative Suite, Microsoft Excel, Git

### **Languages**

English, Mandarin Chinese

### **Hobbies**

Fine art (acrylic paint, pastel, color pencil, charcoal), embroidery, piano

*(Many thanks to Abhraneel Sarma for the design template of this document.)*