

Jordan Wirfs-Brock

Human-Computer Interaction Researcher

wirfsbro@colorado.edu
Website: jordanwb.com
Twitter: @jordanwb
LinkedIn: bit.ly/JWBlinkedin

SUMMARY

For over ten years, I have been making complex information approachable as a journalist, data analyst, technologist, and designer. My PhD research focuses on how sound and other creative multisensory experiences can help people use data to understand the world around them. I also study the future of voice interactions from a human-centered computing perspective.

Research Skills

Qualitative interviewing and ethnographic methods, quantitative and statistical analysis, participatory design, critical technical practice, prototyping, speculative design, data visualization, applied machine learning, quasi-experimental methods/causal inference

EDUCATION

University of Colorado
PhD, Information Science
Advisor: Brian Keegan

Boulder, CO
2017 - present

University of Colorado
MA, Newsgathering
Graduate Certificate in Environment, Policy and Society

Boulder, CO
2010

Massachusetts Institute of Technology
SB, Aeronautic and Astronautic Engineering
Minor in Literature

Cambridge, MA
2006

PROFESSIONAL EXPERIENCE

Spotify
Human-Computer Interaction Research Intern
Mentors: Sarah Mennicken, Jenn Thom
Conducted a research project using participatory design methods to imagine novel voice experiences leveraging personal listening history data

Boston, MA
Summer 2019

Mozilla
Emerging Technologies Research Intern
Mentors: Jofish Kaye, Janice Tsai
Employed surveys, interviews, user studies, and rapid prototyping to understand listening cultures and develop podcasting and voice technologies

Remote
Fall 2018

Yahoo/Oath*User Experience Research Intern*

Mentor: Katie Quehl

Supported Yahoo News applications and explored future product areas by conducting interviews, user tests, diary study, eye-tracking, surveys; conceived of and led an hands-on voice design workshop for employees

Sunnyvale, CA

Summer 2018

Inside Energy/Rocky Mountain PBS*Data Journalist*

Produced stories for web, radio and TV about the energy industry; experimented with creative techniques like stop-motion animation and data sonification; collaborated with a team of reporters on investigative projects; performed at live events; practiced audience-driven storytelling; established data-driven culture for a start-up media organization

Denver, CO

2014 - 2017

The Piton Foundation*Data Curator; Product Manager*

Analyzed socioeconomic data and community indicators; co-founded Floodlight, a tool for digital storytelling; grant-writing, product/technology development, outreach and community training

Denver, CO

2011 - 2013

Center for Environmental Journalism, University of Colorado*Graduate Research Assistant*

Assistant to Ted Scripps Fellowship program; coordinated weekly seminar speakers; maintained program website and alumni communications

Boulder, CO

2008 - 2010

ACADEMIC PUBLICATIONS

Peer-Reviewed Journal Articles

Jordan Wirfs-Brock, Alli Fam, Laura Devendorf, and Brian Keegan. 2021. Examining Narrative Sonification: Using First-Person Retrospection Methods to Translate Radio Production to Interaction Design. *ACM Transactions on Computer-Human Interaction*. (In press)

Jordan Wirfs-Brock and Katie Quehl. 2019. News From the Background to the Foreground: How People Use Technology To Manage Media Transitions: A Study of Technology-mediated News Behaviors in a Hyper-connected World. *Proc. ACM Interact. Mob. Wearable Ubiquitous Technol.* 3, 3, Article 110 (September 2019), 19 pages. DOI: <https://doi.org/10.1145/3351268>

Peer-Reviewed Conference Papers

Mikhaila Friske, **Jordan Wirfs-Brock**, Laura Devendorf. 2020. Entangling the Roles of Maker and Interpreter in Interpersonal Data Narratives: Explorations in Yarn and Sound. In *Proceedings of the 2020 ACM Designing Interactive Systems Conference (DIS '20)*. ACM, New York, USA, 297-310. DOI: <https://doi.org/10.1145/3357236.3395442> - **Best Paper Honorable Mention Award**

Jordan Wirfs-Brock, Sarah Mennicken, Jenn Thom. 2020. Giving Voice to Silent Data: Designing with Personal Music Listening History. In *Proceedings of the 2020 CHI Conference on Human*

Factors in Computing Systems (CHI '20). ACM, New York, NY, USA, 1-11. DOI:
<https://doi.org/10.1145/3313831.3376493>

Jordan Wirfs-Brock. 2019. Recipes for Breaking Data Free: Alternative Interactions for Experiencing Personal Data. In *Companion Publication of the 2019 on Designing Interactive Systems Conference 2019 Companion (DIS '19 Companion)*. ACM, New York, NY, USA, 325-330. DOI:
<https://doi.org/10.1145/3301019.3323892>

Frank Bentley, Katie Quehl, **Jordan Wirfs-Brock**, and Melissa Bica. 2019. Understanding Online News Behaviors. In *Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems (CHI '19)*. ACM, New York, NY, USA, Paper 590, 11 pages. DOI:
<https://doi.org/10.1145/3290605.3300820>

Conference Posters, Talks, and Workshop papers

Jordan Wirfs-Brock. 2021. Learning to Listen to Data: Voice Interaction, Sonification, and Narrative. *Companion Publication of the 2021 ACM Designing Interactive Systems Conference*. ACM, New York, NY, USA, 7-10. DOI:<https://doi.org/10.1145/3468002.3468231>

Jordan Wirfs-Brock. 2021. Switched on Listening: What Auditory Display Designers Can Learn from Video Analysis. Abstract for the *26th International Conference on Auditory Display (ICAD '21)*. June 25-28, 2021, virtual.

Jordan Wirfs-Brock. 2021. Learning to Listen to Data: Voice Interaction, Sonification, & Narrative. ThinkTank (doctoral consortium) for the *26th International Conference on Auditory Display (ICAD '21)*. June 25-28, 2021, virtual.

Jordan Wirfs-Brock. 2020. Exploring Conversational Interfaces as Sites for Collaborative Sensemaking around Data. *Position paper for Collaborating through Conversational User Interfaces Workshop at CSCW '20*.

Jordan Wirfs-Brock. 2020. Inbodied Ultra-Running: Performance While Pushing MEECS Processes to their Limits. *Position paper for 3rd Body as Starting Point Workshop, CHI '20*.

Jordan Wirfs-Brock. 2019. Quantuition: Exploring the Future of Representing Biometric Data. Entry in Student Design Competition at ACM Conference on Tangible, Embedded, and Embodied Interactions (TEI '19). — **Best Concept/Design Award**

Jordan Wirfs-Brock. 2018. Conversational Sonification: Exploring the Intersection of Data Sonification, Voice Interfaces, and Interactivity. ThinkTank (doctoral consortium) poster and talk at International Conference on Auditory Display (ICAD '18).

TEACHING & TRAINING

University of Colorado, Boulder

Graduate Teaching Assistant

→ INFO 1201: Computational Thinking - Intro Python programming class

Boulder, CO

Fall 2021, Spring

2021, Spring 2019

<p><i>Guest lecture: Computing with sound and sonification</i></p> <ul style="list-style-type: none"> → INFO 1121: Interaction Design - UX/UI class focusing on research, prototyping, and evaluating interactive technologies → INFO 1111: Understanding the World Through Data - Introductory level class on gathering, analyzing, and communicating data 	Fall, Spring 2018
<p><i>Graduate Instructor</i></p> <ul style="list-style-type: none"> → INFO 1101: Computation and Society - Class about critically analyzing sociotechnical systems like computers and AI 	Summer 2021
<p>Media Party <i>Workshop Facilitator</i> "Let's Talk: Designing Interactive Conversational News Experiences"</p>	Virtual Conference September 2020
<p>Society for Professional Journalists <i>Google News Initiative Trainer; Denver Workshop Trainer</i> Taught hands-on workshops in advanced search, mapping, data visualization, immersive media at newsrooms, universities, conferences</p>	Various locations 2016 - present
<p>SRCCON Designed and facilitated sessions for SRCCON, a conference "to transform the ways journalism and tech work"; peer mentor for session facilitators</p> <ul style="list-style-type: none"> → "Let's create a roadmap for user testing and feedback in newsrooms" → "Can we pair program the news?" → "Data audioization workshop" 	Minneapolis, Portland 2015 - 2017
<p>Kwangju Foreign School <i>High School Teacher; Princeton in Asia Fellow</i> Taught Biology, Physics, Pre-Calculus, Model U.N., World History; coached cross-country, basketball; advisor for yearbook and art-lit magazine</p>	Gwangju, Korea 2006 - 2007

INVITED TALKS

<p>Loud Numbers Sonification Festival "Recipes for Interacting with Data + Sound" https://bit.ly/3nx4zo7</p>	2021
<p>PodRecs Workshop at RecSys Workshop Keynote - "What Do We Know About Podcast Listeners?"</p>	2020
<p>Cornell Information Science Graduate Seminar Learning to Listen to Data: A Case Study of Narrative Sonification</p>	2020
<p>Google Developers Group/Women Techmakers "A Case for Conversing With Data" - http://bit.ly/JWB-WT2018</p>	2018
<p>People Powered Publishing Conference Reciprocal Podcasting: Interactivity in Audio</p>	2017

TEDxMileHigh “Your Relationship with Energy is Broken” - http://bit.ly/JWB-TEDx	2016
Spark! Colorado School of Mines Co-emcee and writer, “Unpacking the Politics of Energy in Colorado” http://bit.ly/SparkMines	2016
NICAR (National Institute for Computer Assisted Reporting) “30 Energy Data Story Ideas in 60 Minutes”	2016
Spark! Colorado State University - Powerhouse Energy Campus Co-emcee, “Colorado on the Cutting Edge of Innovation” http://bit.ly/SparkCSU	2015
The Aspen Challenge, Denver “Storytelling Seminar”	2014
Colorado Library Consortium - Spring Workshops <i>Co-Keynote Speaker with Wendy Norris</i>	2014
Obama for America Colorado Citizen Engagement Roundtable Ignite Session	2013
Knight Media Learning Seminar Lessons learned from the Floodlight project	2013
Denver Regional Council of Governments Regional Data Summit	2012, 2013
National Neighbors Indicators Partnership , annual meeting	2011, 2012
Western Arts Federation Symposium	2012

AWARDS

Designing Interactive Systems (DIS) Best Paper Honorable Mention Award - “Entangling the Roles of Maker and Interpreter in Interpersonal Data Narratives: Explorations in Yarn and Sound”	2020
Tangible, Embedded and Embodied Interactions (TEI) student design competition, best concept/design - “Quantuition”	2019
Heartland Regional Emmy Nominee, informational series - Explaining fracking in 3 videos (with Macgregor Campbell)	2018
University of Colorado Data Visualization Contest, 1st place - “Indian Lands and Fossil Fuel Resources” 3rd place - “Mapping Colorado’s Invisible Pipeline Network”	2017

Public Radio News Directors Incorporated Award, 1st place independent podcast - Out There, "High on Failure" (with Willow Belden)	2017
Heartland Regional Emmy Nominee, informational short - "What Does The Clean Power Plan Mean For You?" (with Macgregor Campbell)	2017
National Headliner Award, 2nd place radio series - "Blackout" (with Inside Energy team)	2016
Regional Murrow, investigative radio - "Abandoned Wells" (data journalist supporting reporter Stephanie Joyce)	2016
National Headliner Award, 2nd place radio feature - "How You're Invested In Oil And Gas" (data journalist supporting reporter Dan Boyce)	2015
MIT Boit Writing Prize, Best Essay	2006

GRANTS & FELLOWSHIPS

Mozilla Research Grant	2019
University of Colorado Travel Grant	2019
Sterling Award, College of Media, Communication and Information	2018
People Power Publishing Fellowship - Project: Reciprocal Podcasting	2016
Princeton in Asia Fellowship	2006
Oregon Space Grant Award	2005
National Merit Scholar	2002

SERVICE

Peer Reviewing

ACM Conference on Human Factors in Computing (CHI); ACM Conference on Computer-Supported Cooperative Work and Social Computing (CSCW); Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT); ACM Conference on Designing Interactive Systems (DIS); International Conference on Agile Software Development (XP); ACM International Conference on Interactive Media Experiences (IMX/TVX); ACM Conference on Tangible, Embedded, and Embodied Interactions (TEI); Mobile HCI; ACM Transactions on Computer-Human Interaction (TOCHI).

Student Volunteering

ACM Conferences on Human Factors in Computing (CHI) and Designing Interactive Systems (DIS)

Mentoring

University of Colorado Graduate Mentorship Program (2019); Department of Information Science incoming students mentor (2019, 2020)

Volunteer Science Fair Judge

Elementary, middle and high school science fairs in Boulder, Colorado (2019–2020 academic year)

Department of Information Science Graduate Student Association Officer

Social chair, 2020–2021

SELECTED JOURNALISM WORK

My reporting and data visualizations from *Inside Energy* have been picked up by national outlets such as *Marketplace*, *NPR*, *High Country News*, and *PBS Newshour*. More is available at <http://jordanwb.com/portfolio> and <http://insideenergy.org/author/jbrock/>.

Data Journalism

Beyond Standing Rock Data Companion – A series of maps designed to add context to a video documentary that explores issues of tribal sovereignty and energy development.
<http://bit.ly/BSR-data-companion>

Mapping Colorado's invisible pipeline network – After a deadly home explosion in Firestone, Colorado, state officials called for the release of underground flowline data, mapped here.
<http://bit.ly/invisible-pipelines>

Visualizing the flow of money behind oil and gas ballot measures – In 2016, the race to gather enough signatures to get oil and gas ballot measures on Colorado's ballot cost \$15.5 million dollars. Who spent that money and how?
<http://bit.ly/oil-gas-ballot-measures>

Where people meet oil and gas: A Colorado story in 3 maps – Coloradans aren't just living among new wells, they are also living on top of wells drilled and abandoned decades ago.
<http://bit.ly/CO-oil-gas-maps>

Radio and Podcasting

Here's what the crescendo of unemployment sounds like and *What sound does a volatile stock market make?* – Sonifications produced for *Marketplace* and presented via explanatory interviews.
<http://bit.ly/unemployment-sonification>
<http://bit.ly/DJI-sonification>

Listen to U.S. coal production fall off a cliff – An experiment turning data into music. What does the collapse of the U.S. coal industry sound like?
<http://bit.ly/coal-sonification>

Hacking the grid - A story about rural Colorado, cybersecurity and the electric grid.
<http://bit.ly/grid-cybersecurity>

The electricity mix in the Western grid is changing before our eyes - A radio news spot and three data visualizations on how natural gas is caught in the middle between coal and renewables.
<http://bit.ly/western-grid>

High on failure - A longform, personal narrative podcast I produced for *Out There*. I attempted a 550-mile mountain trail race in Vermont called Infinitus. I failed. This is the story.
<http://www.outtherepodcast.com/episodes/2016/4/10/episode-17-high-on-failure>

Qualia - An immersive podcast miniseries, co-produced with Bishop Sand, exploring the intersection of science and philosophy with thought experiments in sound.
<https://soundcloud.com/user-913130677>

ULTRA-RUNNING

A runner since middle school, my specialties are trail races and multi-day events. Here are some of the races I've run:

- **Infinitus 888km** 10-day race: soloist (2015, 2016, 2017, 2018); relay (2019)
- **100-mile runs:** Badger Mountain (1st place female, course record), Orcas Island (1st place female), IMTUF, Fat Dog (1st place female), Cascade Crest, Massanutten, Leadville
- Member of **Girls Heart Rockets**, a space and science-themed all-women relay team, for more than 10 years

PERSONAL INTERESTS

Playing board games, drawing, sketchnoting, baking, home-brewing