

# Noura Howell

## Assistant Professor

Digital Media in the School of Literature, Media, & Communication  
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## ▷ EDUCATION

### School of Information, University of California, Berkeley

Ph.D., 2020, in Information Management & Systems with a Designated Emphasis in New Media.  
Physical computing, critical making, design research, qualitative research methods.

### Olin College of Engineering

B.S., 2012, in Engineering with a Concentration in Computing. Human centered design, software engineering.

### Mississippi State University

Gap year in pure math for fun, 2007 - 2008, graph theory, group theory, topology.

## ▷ REFEREED JOURNAL & CONFERENCE PUBLICATIONS

**Diffraction-in-action: Designerly Explorations of Agential Realism Through Lived Data.** Pedro Sanches, Noura Howell, Vasiliki Tsaknaki, Tom Jenkins, Karey Helms. 2022. *Human Factors in Computing Systems (CHI)*. Forthcoming.

Cracks in the Success Narrative: Rethinking Failure in Design Research through a Retrospective Trioethnography. Noura Howell, Audrey Desjardins, Sarah Fox. 2021. *ACM Transactions on Computer-Human Interaction (TOCHI)*.

**Calling for a Plurality of Perspectives on Design Futuring: An Un-Manifesto.** Noura Howell, Britta F. Schulte, Amy Twigger Holroyd, Rocío Fatás Arana, Sumita Sharma, Grace Eden. 2021. *Extended Abstracts of Human Factors in Computing Systems (alt.chi)*.

Teachable Machine: Approachable Web-Based Tool for Exploring Machine Learning Classification. Michelle Carney, Barron Webster, Irene Alvarado, Kyle Phillips, Noura Howell, Jordan Griffith, Jonas Jongejan, Amit Pitaru, Alexander Chen. 2020. *Extended Abstracts of Human Factors in Computing Systems (CHI)*.

Expanding Modes of Reflection in Design Futuring. Sandjar Kozubaev, Chris Elsdén, Noura Howell, Marie Louise Juul Søndergaard, Nick Merrill, Britta Schulte, Richmond Y. Wong. 2020. *Human Factors in Computing Systems (CHI)*. (23.4% acceptance rate)

**Life-Affirming Biosensing in Public: Sounding Heartbeats on a Red Bench.** Noura Howell, Greg Niemeyer, Kimiko Ryokai. 2019. *Human Factors in Computing Systems (CHI)*. (24%)

**Emotional Biosensing: Exploring Critical Alternatives.** Noura Howell, John Chuang, Abigail De Kosnik, Greg Niemeyer, Kimiko Ryokai. 2018. *Proceedings of the ACM on Human-Computer Interaction (CSCW)*. (26%)

**Tensions of Data-Driven Reflection: A Case Study of Real-Time Emotional Biosensing.** Noura Howell, Laura Devendorf, Tomás Vega Gálvez, Rundong (Kevin) Tian, Kimiko Ryokai. 2018. *Human Factors in Computing Systems (CHI)*. (26%)

Vivewell: Speculating Near-Future Menstrual Tracking through Current Data Practices. Sarah Fox, Noura Howell, Richmond Wong, Franchesca Spektor. 2019. *Designing Interactive Systems (DIS)*. (25%)

Capturing, Representing, and Interacting with Laughter. Kimiko Ryokai, Elena Duran, Noura Howell, Jonathan Gillick, David Bamman. 2018. *Human Factors in Computing Systems (CHI)*. (26%)

**Biosignals as Social Cues: Ambiguity and Emotional Interpretation in Social Displays of Skin Conductance.** Noura Howell, Laura Devendorf, Rundong (Kevin) Tian, Tomás Vega Gálvez, Nan-Wei Gong, Ivan Poupyrev, Eric Paulos, Kimiko Ryokai. 2016. *Designing Interactive Systems (DIS)*. (26%)

"I don't want to wear a screen": Probing Perceptions of and Possibilities for Dynamic Displays on Clothing. Laura Devendorf, Joanne Lo, Noura Howell, Jung Lin Lee, Nan-Wei Gong, M. Emre Karagozler, Shiho Fukuhara, Ivan Poupyrev, Eric Paulos, Kimiko Ryokai. 2016. *Human Factors in Computing Systems (CHI)*. Best Paper Award. (1%)

Celebrating Laughter: Capturing and Sharing Tangible Representations of Laughter. Kimiko Ryokai, Elena Duran, Dina Bseiso, Noura Howell, Ji Won Jun. 2017. *Extended Abstracts of Designing Interactive Systems (DIS)*. (22%)

Doodle Daydream: An Interactive Display to Support Playful and Creative Interactions Between Coworkers. Samitha Elvitigala, Samantha W. T. Chen, Noura Howell, Denys J. C. Matthies, Suranga Nanayakkara. 2018. *Proceedings of the Symposium on Spatial User Interaction*. (31%)

On the  $L(2,1)$ -Labelings of Amalgamations of Graphs. Sarah Spence Adams, Noura Howell, Nathaniel Karst, Denise Sakai Troxell, Junjie Zhu. 2013. *Discrete Applied Mathematics*.

Effect of Microbial Pretreatment on Enzymatic Hydrolysis and Fermentation of Cotton Stalks for Ethanol Production. Jian Shi, Ratna R. Sharma-Shivappa, Mari Chinn, Noura Howell. 2009. *Biomass and Bioenergy*.

## ▷ TEACHING

### **Critical Making with Emotion AI**

Lead instructor, Georgia Tech, 2021. Designing and building interactive art installations that use emotion AI to analyze facial imagery to classify emotion, to prompt critical reflect on social impacts of emotion AI.

### **Biosensing Technologies in Everyday Life**

Lead instructor, North Carolina State University, 2021. Readings, discussion, and student-driven projects on sociotechnical implications of biosensing technologies such as algorithmic oppression, surveillance, and emotional biosensing.

### **Critical Making & Design Futuring**

Lead instructor, North Carolina State University, 2020, 2021. Readings, discussion, and student-driven critical making and critical design futuring projects on topics such as algorithmic oppression, facial recognition, biometric surveillance, content moderation, etc.

### **Creative Programming & Electronics**

Teaching assistant, UC Berkeley, 2018. Hands-on Arduino, p5.js, circuits, and soldering.

### **Theory & Practice of Tangible User Interfaces**

Teaching assistant, UC Berkeley, 2016, 2017, 2018. Curriculum development, leading labs on embodied interaction, design theory, Arduino, circuits, soldering. Design critique and project mentorship.

### **Deconstructing Data Science**

Teaching assistant, UC Berkeley, 2016. Machine learning methods with critical social analysis of assumptions and bias embedded in algorithms and how these can reinforce inequality. Python tutoring, project advising.

### **Creative Code Immersive**

Teaching assistant, Gray Area Foundation for the Arts, 2014. Night class for artists. Arduino, Processing, circuits, and JavaScript.

## ▷ GRANTS & AWARDS

Google AI and TensorFlow, 2021

Center for Technology, Society, & Policy and Algorithmic Fairness & Opacity Group, 2020

Center for Long Term Cybersecurity, 2019

Center for Technology, Society, & Policy and Center for Long Term Cybersecurity Fellowship, 2019

New Media Undergraduate Research Mentorship Award, 2019

Tech for Social Good, 2018

Jacobs Innovation Center, 2018

Arts Research Center Fellowship, 2018

Center for Technology, Society, & Policy and Center for Long Term Cybersecurity Fellowship, 2018

New Media Summer Research Award, 2018

Graduate Division Summer Grant, 2018

New Media Undergraduate Research Mentorship Award, 2018

Outstanding Graduate Student Instructor, 2017

Cota Robles Fellowship, 2014

## ▷ WORK EXPERIENCE & INDUSTRY COLLABORATIONS

### **North Carolina State University**

Assistant professor, Communication Dept., 2020 - 2021

### **Google ATAP Project Jacquard**

Research collaborator for color-changing fabric real time data display, 2016

### **Intel Labs**

Software developer for Galileo IoT programming kit UI design and code, multi client sync protocol, 2014

### **Augmented Human Lab**

Visiting researcher with Suranga Nanayakkara at Singapore University of Technology & Design, 2017

### **The Echo Nest & SiriusXM**

Software developer. Data viz, full stack web, dashboard, parallelization for SiriusXM, 2012 - 2013

### **Army Corps of Engineers**

Parallelized a 10K+ line FORTRAN coastal water flow simulation with OpenMP directives, 2007

## ▷ ACADEMIC WORKSHOPS

**Challenges and Opportunities for Designing with Biodata as Material.** Vasiliki Tsaknaki, Tom Jenkins, Laurens Boer, Sarah Homewood, Noura Howell, Pedro Sanches. 2020. Hosted DIY workshop around NordiCHI.

**Interrogating Biosensing in Everyday Life.** Nick Merrill, Richmond Wong, Noura Howell, Luke Stark, Lucian Leahu, Dawn Nafus. 2017. Hosted workshop at Designing Interactive Systems (DIS).

Connecting Two Oakland Neighborhoods: Surveillance and Self-Representation. Noura Howell. 2015. Workshop paper at Critical Alternatives Aarhus Decennial Conference.

## ▷ ART EXHIBITIONS

**Feeling Air: A Psycho-Speculative Inflatable Happening**, 2021, at the Black Mountain College Museum + Arts Center Annual Conference, Asheville, U.S., with Shawn Protz, students at Georgia Tech and N.C. State Universities.

Heart Sounds Buckets, 2019, at Worth Ryder Art Gallery, Berkeley, U.S., with Stephanie Tang, Kimiko Ryokai.

**Salaam Participatory Peace Sculpture**, 2018, at Figment Arts Festival, Oakland, U.S., with Stan Clark, Sahil Mohan.

Ebb Color-Changing Fabric, 2018, at the Tech Museum of the Center for Information Technology Research in the Interest of Society, Berkeley, U.S., with Laura Devendorf et al.

Salaam Participatory Peace Sculpture, 2017, at the Islamophobia Conference, Berkeley, U.S., with Stan Clark, Sahil Mohan.

## ▷ ACADEMIC SERVICE

### Associate Chair

Human Factors in Computing Systems (CHI) 2022

Designing Interactive Systems (DIS) 2019 - 2020

### Reviewer

National Science Foundation of the U.S., 2021

Human Factors in Computing Systems (CHI), 2016 - 2021

Designing Interactive Systems (DIS), 2017 - 2021

Computer-Supported Cooperative Work and Social Computing (CSCW), 2019 - 2021

Design Issues, 2017

Tangible Embedded Embodied Interactions (TEI), 2018 - 2021

NordiCHI, 2018

ACM Group, 2020

Transactions on Human-Computer Interaction (ToCHI), 2021

Journal of Textile Design Research and Practice, 2021

Grants Committee, NC State Dept. of Communication, 2020

Peer Teaching Evaluations Standards & Scheduling, NC State Dept. of Communication, 2020

Office Redesign Committee, UC Berkeley School of Information, 2019

PhD Student Representative to the Faculty, UC Berkeley School of Information, AY 2015-16

## ▷ INVITED TALKS & PANELS

**Exploring the Promise and Peril of Emotion AI, Designing for Emotional Meaning-Making with Data, and Imagining an Affirmative Biopolitics with Data.** GVU Seminar Series, Georgia Tech, U.S., 2021

Designing for Emotional Meaning-Making with Data: Imagining an Affirmative Biopolitics, talk at Coffee & Viz Research Exchange, North Carolina State University, U.S., 2021

Beyond Big Tech: Careers in Social Impact, Tech for Good, and Research Panel, UC Berkeley, 2021

Diversity Admissions Panel, UC Berkeley, 2020

**Reimagining Cybersecurity through the Design of the Heart Sounds Bench**, talk at Center for Long-Term Cybersecurity Research Exchange, Berkeley, U.S., 2019

Emotional Biosensing, talk at InfoCamp Conference, Berkeley, U.S., 2019

Emotional Biosensing, talk at Bay Area Signal Hackers, Pandora, Oakland, U.S., 2019

A Case Study of Emotional Biosensing: Tensions of Data-Driven Reflection, for the Society for the Social Studies of Science (4S), Boston, U.S., 2017

Design Thinking: From Idea to Innovation, workshop facilitator for tech industry executives with the Augmented Human Lab, Colombo, Sri Lanka, 2017

Emotional Biosensing, guest lecture for the class Mind-Reading and Telepathy for Beginners and Intermediates at UC Berkeley, 2017

Machine Learning Introduction, guest lecture for the class City Planning 101 at UC Berkeley, 2017

Information vs. Interaction: A Case Study of Affective Computing, lecture for the class Deconstructing Data Science at UC Berkeley, 2016

Rethinking Data with Emotion and Materiality, guest lecture for the class Sensors, Humans, Data, Apps at UC Berkeley, 2016

Rethinking Data with Emotion and Materiality, lecture for the class Tangible User Interfaces at UC Berkeley, 2016