Noura Howell

Assistant Professor

Digital Media in the School of Literature, Media, & Communication

Georgia Institute of Technology

nourahowell.com

nhowell8@gatech.edu

▷ 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

Fabulating Biodata Futures for Living and Knowing Together. Vasiliki Tsaknaki, Pedro Sanches, Tom Jenkins, Noura Howell, Laurens Boer, Afroditi Bitzouni. 2022. *Designing Interactive Systems* (*DIS*). Forthcoming.

> In this year, the acceptance rate for this type of submission at this venue was 30%.

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*).

> This paper received an Honorable Mention Award, reserved for the top 5% of accepted papers.
> In this year, the acceptance rate for this type of submission at this venue was 13.6%.

Design Futuring for Love, Friendship, and Kinships: Five Perspectives on Intimacy. Sumita Sharma, Britta F. Schulte, Rocío Fatás Arana, Noura Howell, Amy Twigger Holroyd, Grace Eden. 2022. *Extended Abstracts of Human Factors in Computing Systems* (*alt.chi*).

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 Elsden, Noura Howell, Marie Louise Juul Søndergaard, Nick Merrill, Britta Schulte, Richmond Y. Wong. 2020. *Human Factors in Computing Systems* (*CHI*).

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

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*).

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*).

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

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

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*).

"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*).

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*).

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*.

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

Principles of Interaction Design
Lead instructor, Georgia Tech, 2022. Designing and evaluating screen-based interfaces. Contextual inquiry, task analysis, accessibility audit, heuristic evaluations.

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.

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

Biosensing Technologies in Everyday Life
Lead instructor, NC 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, NC 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.

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.

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

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.

▷ GRANTS & AWARDS

Small Grant for Research, Georgia Institute of Technology, 2022

COVID Faculty Relief Fund, Georgia Institute of Technology, 2022

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, e-textile 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 10K+ line FORTRAN model with OpenMP, 2007

▷ ACADEMIC WORKSHOPS HOSTED

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).

▷ ART EXHIBITONS & PERFORMANCES

Embodied Transductions, 2022, on the Music submission venue at the *New Interfaces for Musical Expression* conference.

Infrastructural Membranes, 2022, at Ferst Arts Center, Atlanta, U.S.

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

Executive Committee, Georgia Tech School of Literature, Media, & Communication, spring 2022

Grants Committee, NC State Dept. of Communication, academic year 2020-2021

Peer Teaching Evaluations Standards & Scheduling, NC State Dept. of Communication, academic year 2020-2021

Office Redesign Committee, UC Berkeley School of Information, spring 2019

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

▷ INVITED TALKS & PANELS

Community Conversation: Impact, Arts, and Technology. Invited panelist alongside Gabriel Kahane and Felipe Barral. Hosted by the Atlanta Opera and Georgia Tech Arts. Atlanta, U.S., 2022

Designing for Emotional Meaning-Making with Data. Invited lecture at The Scholars' Lab, University of Virginia, U.S., 2021

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

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

Beyond Big Tech: Careers in Social Impact, Tech for Good, and Research. Invited panelist, 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