

NOURA HOWELL

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I design **tangible interactions with emotional biosensory data**. How can we reconfigure emotional biosensing for a multiplicity of ways of feeling and ways of knowing? I investigate this via critical/speculative design research, making technical artifacts and studying socioemotional experiences around these artifacts.

EDUCATION

School of Information, University of California, Berkeley

Ph.D., May 2019 (est.) in Information Systems with Designated Emphasis in New Media.

Physical computing, critical making, design research, qualitative research methods.

Olin College of Engineering

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

Mississippi State University

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

PUBLICATIONS

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. *Computer Supported Cooperative Work (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)*.

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)* - **Best Paper Award**.

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 Companion (DIS)*.

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

Representation and Interpretation of Biosensing. **Noura Howell**. 2016. *Doctoral Consortium at Designing Interactive Systems (DIS Companion)*.

Connecting Two Oakland Neighborhoods: Surveillance and Self-Representation. **Noura Howell**. 2015. *Workshop Paper at Critical Alternatives*.

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*, 161(7-8): 881-8.

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*, 33(1): 88-96.

EXPERIENCE

Augmented Human Lab

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

Project Jacquard at Google ATAP

Color-changing fabric real time data display, 2016

Intel Labs

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

Microsoft

Program Manager Intern for Windows 8, 2011

MIT Media Lab - Fluid Interfaces

Research Assistant with Seth Hunter. User studies, software development for WaaZam!, a networked video system for full-body Kinect play, 2013

The Echo Nest & SiriusXM

Software Developer. Data viz, full stack web, parallelization, and a dashboard for 50K+ dynamic music objects for SiriusXM, 2012 - 2013

Army Corps of Engineers

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

TEACHING

Tangible User Interfaces

Teaching assistant. Curriculum development of readings, lectures, and labs. Design critique and project mentorship. Teaching hands-on Arduino, electronics, and soldering. 2016, 2017, 2018

Creative Code Immersive

Teaching assistant at Gray Area Foundation. Hands on instruction in Arduino, Processing, electronics, and JavaScript for artists. 2014

Deconstructing Data Science

Teaching assistant. Machine learning methods with critical social analysis of the assumptions and inequity these algorithms can reinforce. My duties included Python tutoring and project advising. 2016

Creative Programming & Electronics

Teaching assistant. Teaching hands-on Arduino, p5.js, electronics, and soldering. 2018

AWARDS

Tech for Social Good, 2018, UC Berkeley, for "**Recentering the Body in Technological Utopias.**"

Jacobs Ignite Grant, 2018, UC Berkeley, for "**Heart Sounds Bench.**"

Arts Research Center Fellowship, 2018, UC Berkeley, for "**Critical Urban & Emotional Sensing.**"

Center for Technology, Society, & Policy and Center for Long Term Cybersecurity Fellowship, 2018, UC Berkeley, for “**Menstrual Biosensing Survival Guide.**”

Center for New Media Summer Research Award, 2018, UC Berkeley, for “**Feeler/Crawler/Octopoes.**”

Graduate Division Summer Grant, 2018, UC Berkeley, for “**Feeler/Crawler/Octopoes.**”

Center for New Media Undergraduate Research Mentorship Award, 2018, UC Berkeley, for “**Feeler/Crawler/Octopoes.**”

Outstanding Graduate Student Instructor, 2016-2017, UC Berkeley.

Cota Robles Fellowship, 2014, UC Berkeley. “Awarded to exceptional applications who also advance the Regents’ goals for diversification of the academy.”

ACADEMIC SERVICE

Associate Chair, Designing Interactive Systems (DIS), Pictorials, 2019

Reviewer, Human Factors in Computing Systems (CHI), 2019

Reviewer, Tangible Embedded Embodied Interactions (TEI), 2019

Reviewer, Human Factors in Computing Systems (CHI), 2018

Reviewer, Designing Interactive Systems (DIS), 2018

Reviewer, Tangible Embedded Embodied Interactions (TEI), 2018

Reviewer, NordiCHI, 2018

Reviewer, Design Issues, 2017

Reviewer, Designing Interactive Systems (DIS), 2017

Reviewer, Human Factors in Computing Systems (CHI), 2016

PhD Student Representative to the Faculty, Fall 2015 - Spring 2016

EXHIBITONS

Salaam Participatory Sculpture, 2018, at *Oakland Figment Arts Festival*.

Ebb Color-Changing Fabric, 2018, at the *Tech Museum of the Center for Information Technology Research in the Interest of Society*.

Salaam Participatory Sculpture, 2017, at the *Islamophobia Conference*.

TALKS & WORKSHOPS

Design Thinking: From Idea to Innovation, day long design thinking workshop for tech industry executives in Sri Lanka with the Augmented Human Lab. 2017

Human Centered Design Introduction, for the course Technology and Delegation UC Berkeley. 2017

Emotional Biosensing: Possibilities, Problematics, & Critical Alternatives, for the I School PhD Research Reception at UC Berkeley. 2017

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

Emotional Biosensing, for the course Mind-Reading and Telepathy for Beginners and Intermediates at UC Berkeley. 2017

Machine Learning Introduction, for the course City Planning 101 at UC Berkeley. 2017

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

Rethinking Data with Emotion and Materiality, for the course Sensors, Humans, Data, Apps, and the course Tangible User Interfaces at UC Berkeley. 2016