

Center for Human Computer Interaction + Design Annual Report 2020-2021

Our Vision

At the Center for Human-Computer Interaction + Design, we believe that society should be collaborative, sustainable, and equitable. We bring together researchers and practitioners from across the University and globe to study, design, and develop new paradigms for interaction. Our work spans widely because technology influences everything we do.

Message from the Co-Directors

It's an honor to present our first annual report since launching the Center during the pandemic in September 2020. We have been deeply inspired by the commitment of the wonderful faculty, students, administrators, and supporters who work together to bring the Center's vision to life. No single person can create a collaborative, sustainable, and equitable society; it takes a community, and that's exactly what we are building.

Our first year at the helm of this engaged and passionate community has been as satisfying as it has been challenging. We've had the privilege to host world leaders in the fields of Human-Computer Interaction and Design to talk about pluriversal design and include those typically oppressed by and excluded from mainstream narratives, the hierarchy of knowledge in machine learning and its devaluing of various race and gender perspectives, and a future view of participatory machine learning considering how people should relate to artificial intelligence technology. These virtual events brought over a thousand registered attendees and are a striking reminder of why the Center's work bringing together researchers and practitioners across the globe is so critical and important.

This year also marked the onset of the COVID-19 pandemic that has wreaked havoc in so many of the communities which the Center hopes to empower through new models of interaction. While our community has mobilized to help vulnerable communities survive the crisis of public health, misinformation, racial and social injustice, and non-science-based governance, we've also felt the effects of the pandemic firsthand as we built our community virtually. We've been so proud of our colleagues' commitment to research, and how they have brought their tenacity and skills to address the challenges of the pandemic.

We are excited and inspired by the strategic plan we have developed to navigate the next three years and to build upon the Center foundation we have successfully laid this first year. While we have much work to do, we are confident that, together, we can work to create new paradigms for interaction that support a collaborative, sustainable, and equitable society. As this report demonstrates, when we build on Northwestern's pioneering leadership in HCI and Design, we can bring about much-needed change.

Liz Gerber, Darren Gergle, and Bryan Pardo
Co-Directors, Center for Human Computer Interaction and Design

Achievement Overview 2020-2021

Achievement 1: Developed and launched the Center for Human-Computer Interaction + Design as a collaboration between the McCormick School of Engineering and School of Communication.

Achievement 2: Established the Center as an international thought leader in HCI and Design

Achievement 3: Established the Center as the HCI + Design research resource and intellectual community across the university.

Achievement 4: Provided educational experiences in HCI + Design

Achievement 5: Established sustainable funding stream

2020-2021

We now provide an expanded overview of our achievements for the AY 2020-2021 and the steps we've taken toward realizing these achievements.

Achievement 1: Developed and launched the Center for Human-Computer Interaction + Design as a collaboration between the McCormick School of Engineering and School of Communication.

The Center brings together researchers and practitioners from across the university with the mission to study, design, and develop the future of interaction at work, home and play. The creation of the Center serves to further solidify Northwestern's position as a global leader in a research area of monumental importance at the intersection of design and computing in our society. The following presents our core efforts aimed at developing the community and launching the Center.

Established leadership group and initial faculty affiliates

- Recruited 27 faculty members to join the Center from five schools (SoC, McC, WCAS, SESP, Feinberg) and across eight different primary departments
- Recruited 5 post-doctoral researchers to join the Center from three schools (McC, Feinberg, SESP)

Established an online presence and branding

- Built a website to attract faculty, students, and media (3,381 unique visitors as of 8/18/21)
- Established a social media presence (Twitter @NU_CHI; LinkedIn: <https://www.linkedin.com/company/northwestern-s-center-for-human-computer-interaction-design>)
- Created a lockup and digital branding artifacts

Created administrative support processes

- Created a strategic plan
- Created faculty onboarding processes
- Developed a process for multi-school (McC, SoC and SESP) participation in the annual HCIC (the national consortium in HCI and Design)
- Created a newsletter template
- Created an events template
- Hired a part-time student research assistant

Achievement 2: Established the Center as an international thought leader in HCI and Design

The Center serves to further Northwestern's international position as a hub for intellectual activity and forward-looking thought leadership. The following activities serve this goal:

Established the "Thought Leader Lecture Series"

With the support of McC and SoC, the series launched in the Fall 2020 with the goal of providing a forum for dialogue with both academic and industry partners. The series highlights Northwestern's capabilities at the intersection of disciplines and aims to spawn new research initiatives both among NU faculty as well as with external organizations and institutions.

- [Pluriversal Design: Drs. Don Norman, Terry Winograd, Fernando Flores, Arturo Escobar, B. Scot Rousse](#), 800+ registered attendees, 12/4/20
- [The Hierarchy of Knowledge in Machine Learning and Related Fields and Its Consequences: Dr. Timnit Gebru](#), former co-lead of Google's Ethical Artificial Intelligence research team, 175 attendees, only open to Northwestern community, 4/5/21
- [Participatory Machine Learning: Drs. Martin Wattenberg and Fernanda Vegas](#) (Google Brain's People + AI Research initiative), 184 registered attendees, 4/29/21
- Faculty Roundtable with Drs. Martin Wattenberg, Jessica Hullman, Bryan Pardo, Maia Jacobs, and Matthew Kay, 15 participants, open only to Center affiliates, 4/29/21

Our leadership team presented on the Center at local and international venues including:

- SoC Dean's National Advisory Council Meeting presentation including 11.5 minute "sizzle" video, 6/12/20 [Link](#) (Pardo, Gergle, Gerber)
- AI@NU Community presentations highlighting AI work in progress at Northwestern and potential future collaboration opportunities (Gergle)
- Feinberg and Lurie's Design for Digital Health reading course (Gerber)
- Institute for Sexual and Gender Minority Health and Center for Behavioral Intervention Technologies (Gergle, Jacobs, Birnholtz)
- Future of Design Education International Steering Committee meeting (Gerber)

The Center has been responsive to demand, and we are planning events for early Fall 2021:

- Industry panel to feature successful Northwestern Alum in HCI + Design working at Google, Facebook, and Microsoft. Planning underway for Fall 2021
- Design Justice panel featuring Northwestern alumna including, Drs. Sheena Erete (DePaul) and Christina Harrington (Carnegie Mellon U). Planning underway for Fall 2021

Achievement 3: Established the Center as the HCI + Design research resource and intellectual community across the university. The Center also serves to further HCI and Design research activities within the University. The following activities serve this goal:

Established connections with the following institutes and centers:

- Center for Behavioral Intervention Technologies (Drs. David Mohr, Andrea Graham, Emily Lattie)
- Institute for Sexual and Gender Minority Health and Wellbeing (Drs. Brian Mustanski and Kathryn Macapagal) and co-hosted a second event to present core research programs
- Potocsnak Family Division of Adolescent and Young Adult Medicine; Ann & Robert H. Lurie Children's Hospital of Chicago (Dr. Diane Chen, Behavioral Health Director)
- Institute for Policy Research (Dr. Diane Schanzenbach)
- Segal Institute for Design (Drs. Bruce Ankenman and Greg Holderfield)

Hosted internal research talks and community building events for Center affiliates:

- Dr. Andrew Graham (Feinberg) "Designing Digital Mental Health Interventions and their Integration into Health Care Settings"
- Dr. Shefali Halder (McC and Feinberg) "Designing Technology-Enabled Services for Perinatal Mental Health"
- Dr. Kathryn Cunningham (McC) "Purpose-first Programming for Conversational Programmers"
- Hosted 4 Faculty and Postdoc Community Building Events throughout AY 2020-2021

Sponsored PhD reading group on Equity in HCI + Design

Led by graduate student leaders Jack Bandy (SoC/McC), Priyanka Nanayakkara (SoC/McC) and Sohyeon Hwang (SoC), the group focused on these seminal readings:

- Summer 2020 "Race after Technology: Abolitionist Tools for the New Jim Code" by Ruha Benjamin
- Fall 2020 "Design Justice: Community-led Practices to Build the Worlds We Need" by Sasha Costanza-Chock
- Winter 2021 "Design for the Real World: Human Ecology and Social Change" by Victor Papanek
- Spring 2021 "Black Software: The Internet & Racial Justice, from the AfroNet to Black Lives Matter" by Charlton D. McIlwain

Supported the recruitment of new students and faculty to Northwestern:

- PhD students to Computer Science (CS); Technology and Social Behavior (TSB); Learning Sciences + Computer Science (LS/CS); and Media, Technology and Society (MTS) PhD Programs
- Faculty to the Communication Studies department
 - Mancosh Postdoctoral Fellowship: Dr. Ignacio Cruz
 - Target of Opportunity Hire: Dr. Moya Bailey
- Onboarded three new faculty to the Center
 - Computer Science and Feinberg: Dr. Maia Jacobs
 - Computer Science and Communication Studies: Dr. Matt Kay
 - Feinberg: Dr. Andrea Graham

Achievement 4: Provided educational experiences in HCI + Design

The Center's education mission is to support the development of programs and initiatives that address the complex and interdependent problems we face in the world. Future leadership across a wide range of sectors can no longer rely exclusively upon a deep knowledge of technology, but instead must have a rich understanding of the interaction between society and technology. Our educational activities center on developing a training pipeline to address this challenge and to enable and nurture world-class programs in HCI and Design. The following activities serve this goal:

Creation of the NU HCI undergraduate certificate

- Coordinated contributions from 41 faculty and staff; Navigated 5 approval chains (Segal, ME, McC, SOC, Computer Science); administered by McCormick; including classes across 4 schools including McC, SOC, Medill, Weinberg, SESP taught by Center faculty (led by faculty affiliate Matt Easterday)
- Launching the program for the Fall 2021

Design Research Cluster Activities

- Matt Easterday (SESP) led a yearlong development program for 4 PhD students in design research representing SOC, McC, and SESP with participation from faculty affiliates

Educational initiatives in planning

- PhD Program in Technology Social Behavior Integration into the Center
- HCI Area development in Computer Science Department

Achievement 5: Established sustainable funding stream

Center leadership has begun to actively pursue the development of several pathways to long-term sustainability. Our early efforts have focused on the following:

Developing partnerships and submitting major research and training grants:

- NSF AI Research Institute proposal (\$20M, PI: Hammond, co-PI: Gergle, Gerber, Diakopolous - Declined)
- NIH T32 HCI and Health Postdoctoral Training Grant which will support HCI+D postdocs together with postdocs in the Center for Behavioral Intervention Technologies (\$3M, PI: Mohr, co-PI: Reddy with Gergle approved by NIH to assume co-PI role in July 2022)

Exploring competitive landscape for MS in HCI

- Summer 2021 workgroup to explore the development of a multi-school Master's program in HCI (Gerber, Gergle, Pardo, Birnbaum, and Stiers)

Exploring future NSF Research Institute funding proposals