
Toward Equitable Participatory Design: Data Feminism for CSCW amidst Multiple Pandemics

Catherine D'Ignazio**
Massachusetts Institute of Technology
Cambridge, MA
dignazio@mit.edu

Erhardt Graeff
Olin College of Engineering
Needham, MA
egraeff@olin.edu

Christina N. Harrington
DePaul University
Chicago, IL
charri89@depaul.edu

Daniela K. Rosner
University of Washington
Seattle, WA
dkrosner@uw.edu

*All authors contributed equally to this proposal.

ABSTRACT

CSCW, like many other academic communities, is reckoning with its roles, responsibilities, and practices amidst 2020's multiple pandemics of COVID-19, anti-Black racism, and a global economic crisis. Reviewing our work with data and communities demands we address harms from overexposure caused by surveillance or algorithmic bias and from underexposure caused by design that is insufficiently participatory and equitable. This workshop will elicit narratives of good and bad design and data work with communities, apply the lenses of equitable participatory design and data feminism to current CSCW projects and our global context, and develop practical outputs for supporting academics and practitioners in pursuit of democratic and just partnerships.

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CCS CONCEPTS

• **Human-centered computing** → Collaborative and social computing; HCI design and evaluation methods; • **Social and professional topics** → Computing profession.

KEYWORDS

data science, equitable participatory design, data feminism, social justice, collaboration, racism, sexism, COVID-19

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WORKSHOP ORGANIZERS

Catherine D'Ignazio is a hacker mama, scholar, and artist/designer who focuses on feminist technology, data literacy, and civic engagement. She has run women's health hackathons, designed global news recommendation systems, created talking and tweeting water quality sculptures, and led walking data visualizations to envision the future of sea level rise. Her 2020 MIT Press book, *Data Feminism*, co-authored with Lauren Klein, charts a course for more ethical and empowering data science practices. D'Ignazio is an Assistant Professor of Urban Science and Planning in the Department of Urban Studies and Planning at MIT where she is the Director of the Data + Feminism Lab.

INTRODUCTION

COVID-19, anti-Black racism, and the economic crisis all plague the year 2020. These multiple, interrelated pandemics have exposed deep disparities and inequities in the United States and globally. The impact of COVID-19 on Black Americans is substantially greater than white Americans [8, 28], all while racial and ethnic inequities have caused global tensions [6, 7]. The strict lock-downs crippling tourism, service, and informal industries has hit hardest on the working class and poorer members of societies, also greatly impacting those marginalized along racial, gender, and immigration status lines. Globally, nearly half of the world's workforce is at risk of losing their livelihoods due to COVID-19 [33]. Curfews and mandatory face coverings outdoors further threaten communities which are currently overpoliced such as Black and Brown Americans who are almost three times more likely to be killed by police than white Americans [13].

At the same time, the computing industry is booming. Demand is high for internet platforms that support knowledge industry work and virtual connections between people unable to leave their homes. Computing professionals are being asked to find solutions to these pandemics through contact tracing apps, police body cams and crime data tools, and increased opportunities for gig work. At the center of these interrelated injustices and purported solutions is the collection, interpretation, and use of data about people. The history of oppressive data science is long [27, 34]. But equally long is the history of data refusal, counter-data collection, and counter-visualization in support of Black liberation [4, 29, 37]. Although computing's awareness of historical and structural inequalities and its repertoire of tools for anti-oppressive data science and technology design have grown [16, 22, 26], the pace of society's datafication and the demand for solutionism have seemed to move even faster [17].

Current models of how researchers use data are exploitative and further push researched people to the margins. While data help those in the computing world to better understand how to develop systems to support marginalized communities, there are also instances where the collection of data is done in an unethical or misguided approach. Of even greater concern in these times of ongoing pandemics is the reality that collecting data in certain communities and environments can be inappropriately timed and more harmful. Academics with the privilege to be thinking about research and collecting data during the pandemics are burnishing their reputations and ensuring their jobs and overall well-being; at the same time they fail to uplift the communities who should benefit most from new research.

In this workshop, we will situate our conversation to address these serious challenges related to data collection among the theoretical frameworks of data feminism and equitable participatory design.

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Erhardt Graeff is an educator, social scientist, and public interest technologist. He works on the design and use of technology for civic engagement, civic learning, and empowerment, and the ethical responsibility of technologists as stewards of democracy. His current research is on articulating the responsibilities of engineers as citizens and developing new forms of civic education within undergraduate engineering. His current pedagogy is organized around creating spaces for student-owned and -led public interest technology projects. Graeff is an Assistant Professor of Social and Computer Science at Franklin W. Olin College of Engineering and a faculty associate at the Edmond J. Safra Center for Ethics at Harvard University.

Data Feminism

Data Feminism outlines seven principles for integrating an intersectional feminist lens into data science [14]. The principles seek to both make visible and contribute to dismantling power asymmetries undergirding data collection, analysis, visualization, and decision-making. An intersectional feminist analysis *examines power* (the first principle) in a given environment in order to *challenge power* (the second principle). The analysis explicitly includes gender, race, class, and more. Here the term “power” is drawing from sociologist Patricia Hill Collins’s “matrix of domination.” This is a Black feminist conceptual model that describes how oppression works at multiple scales: the structural domain, the disciplinary domain, the hegemonic domain, and the interpersonal domain [11]. Power, therefore, is used to denote “the current configuration of structural privilege and structural oppression, in which some groups experience unearned advantages—because various systems have been designed by people like them and work for people like them—and other groups experience systematic disadvantages—because those same systems were not designed by them or with people like them in mind” [14]. As prior feminist work in HCI has outlined, feminist approaches ask “who questions” [2, 3, 31]: Data science for whom? Data science by whom? and Data science with whose interests and goals in mind?

One of the starting points of data feminism is that structural inequalities like racism and heteropatriarchy infiltrate and infect the data processing pipeline at all stages. We see evidence of this in the over-representation of elite white men working in AI [38], in training data sets [9], in Google search results [32], in resume-screening software [19], in social-service allocation algorithms [15], and in carceral technologies dubbed “the New Jim Code” [5]. We also see evidence of this in the data aspects of the triple pandemic currently at play in the U.S. These manifestations of structural inequality include the fact that there is no comprehensive U.S. federal data set on COVID cases and deaths disaggregated by race/ethnicity or sex [21, 30]. They include the fact that proposed contact tracing apps either exclude the poor and other vulnerable groups, or place them at high risk for targeting [1].

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Christina N. Harrington is a designer and qualitative researcher who focuses on understanding and conceptualizing technology experiences that support health and wellness among older adults and individuals with disabilities. She works on ways to employ design as a catalyst for health equity and socially responsible technology experiences through community-based participatory design and co-creation. Her research explores constructs of empowerment and access among communities that have been marginalized along multiple dimensions of identity (age, race, ethnicity, income, class). Harrington is an Assistant Professor in the College of Computing and Digital Media at DePaul University and the Director of the Equity and Health Innovations Design Research Lab.

They include U.S. government decisions to fly Predator drones over protests to collect data instead of using data-informed decision-making to prioritize testing in vulnerable communities [24].

To the CSCW community, we might ask: What is our role in designing data-driven technologies that engage with this deeply asymmetric and flawed environment that has precipitated three simultaneous and interrelated pandemics? What is our role in taking political action against technologies that incarcerate, discriminate, and subjugate? Who are we accountable to? How do we work in mutually beneficial partnership with communities who have no good reason to trust academics?

Here we look to the fifth principle of data feminism: *embrace pluralism*. This emphasizes the importance of bringing together multiple perspectives in any knowledge-making process, with priority given to local, Indigenous, and embodied ways of knowing. Following feminist HCI [2, 3], feminist PAR [10, 18], design justice [12], and theorists such as Donna Haraway [20] and Kim Tallbear [35], the underlying premise is that designers and researchers can gain better, more detailed, more accurate, and ultimately more responsible knowledge if we pool perspectives from a wide range of individuals and groups, especially centering the perspectives and lived experiences of those who are closest and most directly impacted by the issues at hand.

But how we embrace pluralism and engage the participation and co-design of interactive systems matters deeply. We must consider this pluralism in the context of equitable participatory design methods and their development.

Equitable Participatory Design

Moving towards a feminist approach to data engagement involves also considering the ways that we engage in our research practice. Harrington et al. suggest equitable participatory design as an ethical approach to community-based computing research with marginalized and vulnerable populations [22], extending the ways the HCI and CSCW community have discussed PD with these groups [26]. While equitable PD as a methodological approach is not new among scholars who seek to ground both their method and analysis in participatory action research and community-based practices, this has yet to become widespread across our field. There are still several facets of community-driven participatory design that are needed to drive a level of accountability behind the politics of participatory design around data practices. Accordingly, those who engage in data-related research have begun to consider how we center community outcomes over our own as researchers.

Equitable PD calls for employing several considerations and action items prior to entering vulnerable and marginalized communities to conduct academic research [22]. This premise seeks to restore participatory design research as a truly democratized process, acknowledging global and local historical injustices and pushing for community-driven methods and mutual outcomes. An equitable PD approach with a data feminism lens may best serve academic researchers in appropriately situating the insertion of research studies in communities that experience ongoing systemic oppression. Building

and maintaining meaningful relationships and working alongside community organizations and partners to understand the best use of data science should be a critical focus of the CSCW community at this time.

How can we make this relational commitment and accountability more widespread as a foundational practice in CSCW research when engaging with communities that are not our own? To explore this question, we address the following ongoing strands of CSCW and PD research: (1) Community-driven engagement (de-center researchers and ensure that those without institutional power drive inquiry and design); (2) Accountable positionality (begin by accounting for researcher's privileges, roles, and responsibilities); (3) Responsible citational practices (responsibly consider whose voices get amplified and credited); and (4) Maintaining transparency (put mechanisms in place to keep budgets, promises, and transactions open and trackable).

WORKSHOP ORGANIZERS

Daniela K. Rosner is an Associate Professor in Human Centered Design & Engineering at the University of Washington and co-directs HCDE's Tactile and Tactical Design Lab. Her research investigates the social, political, and material circumstances of technology development, with an emphasis on foregrounding marginalized histories of practice, from maintenance to needlecraft. She is the author of several articles on craft and technoculture, including "Legacies of craft and the centrality of failure in a mother-operated hackerspace," *Journal of New Media & Society* and "Binding and Aging," *Journal of Material Culture*. In her book, *Critical Fabulations*, she investigates new ways of thinking about design's past to rework future relationships between technology and social responsibility (MIT Press, 2018). She serves as co-Editor-in-Chief of *Interactions* magazine, a bimonthly publication of ACM SIGCHI.

Questions for the Field

The centrality of data to our techno-social reality and ongoing inequalities in agency and representation through data collection, interpretation, and use demand that the CSCW community continually interrogate its data and design practices. Data feminism, equitable PD, and the politics of accountability help us dive into relevant questions to be explored during this workshop:

- Who are you? In what ways do you hold privilege? What harmful data practices has your privilege protected you from?
- Who gets to frame challenges for data and design? How is the problem framing stage part of participatory design?
- What does it mean to have data collection and interpretation practices as care work?
- How are marginalized groups currently excluded from each phase of data-centric efforts?
- How do we honor bodies and eliminate trauma to those bodies in our data practices?
- How can identifying missing data, collecting counterdata, performing intersectional analysis, and creating counter-hegemonic algorithms be incorporated into more projects?
- What is the larger responsibility of computing professionals with their individual and institutional power when it comes to data work during these multiple pandemics, and what should public scholarship in HCI look like as it increasingly engages such questions of public interest?

GOALS AND ACTIVITIES

Session 1: Community-building exercises focused on positionality and identity of participants

The goal of the first session is to introduce ourselves to each other as well as ground ourselves in relation to the communities we are accountable to, both personally and professionally. All too often,

mainstream academia asks us to bracket out our various identities in the service of an “imagined objectivity” [5]. In line with feminist participatory action research [10, 18], we believe that our personal histories, group identities, and political commitments are central to the work that we undertake. Activities in this session may include mapping our personal identities vis-a-vis dominant group identities (e.g., The Power Flower [36]), reflecting on our personal experiences of the recent pandemics (e.g., Unfolding History [25]) and mapping our roles in relation to social ecosystems [23].

Session 2: Story-sharing around data, equity and community-academic collaborations

The second session will involve sharing short stories around data, equity, and community-academic collaborations. Prior to the workshop, we will prompt participants to think in advance of a story they will share in this session. Stories may be positive or negative examples, or surface more complicated and entangled ethical dilemmas. By sharing stories, untangling their meanings and takeaways through discussion, we will create a shared digital whiteboard of potential topics for zines and memes. At the end of Session 2, participants will be guided in a process of group formation for the last making session.

Session 3: Zine/Meme-making

The third and final session will involve participants working together in breakout groups to create digital zines and social media shareable memes. Each breakout group will be facilitated by an organizer and aided by a student who will be in charge of helping to lay out the zine or meme. Group topics might include (but are not limited to) “How to recognize a trustworthy academic partner?”, “Collaborative Grant Writing for Community Groups and Academics”, “Ethical Community Interactions” (for academic groups), “Sample MOU”, “Data Pitfalls”, “Examining your own Positionality”, “How to Approach the Academy” (for community groups). We will pursue topics based on expressed interest, urgency, and salience. The final part of Session 3 will be a shareback where each group presents the zine or meme they created and discusses group conversations.

EXPECTED OUTCOMES

- Building connections with other researchers in and outside of academia who are doing grassroots data collection
- Recommendations for how we might challenge the current interpretations and reading of data based on race and gender
- An ethical framework for working with communities to not just collect or understand what data should be collected but also what data means to them—understanding ethics of care
- Documentation of our conversation published as a blog post, website, and/or article for ACM Interactions magazine

- Document/write content in ways that cross boundaries and emphasize public scholarship and community partnerships
- Strengthened relationships between individual academics and specific community groups

LOGISTICS

Recruiting participants

We will create a website detailing the workshop and actively recruit people from the CSCW community, cognate fields, and practitioners from community organizations engaged in the types of data and design work addressed by our workshop. Interested participants from academia will be asked to submit short position papers and a short biography tailored to the workshop themes. Interested practitioners will also be asked to submit a tailored biography, but in lieu of a position paper they can submit reports from their organization or other media they have created that address the workshop themes. We will encourage co-authored position papers, especially between academics and community partners. We will also encourage accepted academic participants to extend invitations to their community partners, regardless of co-authorship, to be full participants in the workshop. Our goal is 20–30 participants in addition to the organizers and facilitators. We intend to compensate community partners for their time.

Facilitation and documentation

The organizers will be the primary facilitators of the workshop. We intend to bring in an artist experienced in zine making to help provide a quick tutorial and layout support. Students of the organizers will help with breakout facilitation and documentation. Our hope is to produce a post-workshop publication detailing participant sentiments and next steps for the larger CSCW field.

Technology and tools

All position papers and shareable submission materials will be posted to the workshop website or to an open access publication platform like PubPub. The workshop's discussion elements will take place in Zoom meetings, utilizing the breakout rooms feature for small group interaction and recordings of the sessions that will be shared with participants but not publicly. We will create online whiteboard spaces for brainstorming and note-taking using a tool like Miro. Collaborative writing leading to our zine making, workshop documentation, and partnership language outputs will use a tool like Google Docs.

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