The social life of scientific visualizations:
How a patient community reframes scientific visualizations for policy advocacy

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Communities increasingly seek to influence policies that affect their lives, often turning to digital platforms such as social media to advocate for inclusion in policy-making processes. Such attempts at participation are especially prevalent in patient communities, where policy decisions can profoundly impact patients' quality and length of life. For example, during the COVID-19 pandemic, patients experiencing persistent symptoms mobilized on social media to share their illness experiences and demand medical recognition. Within months, their advocacy helped create specialty clinics, accelerate research funding, and influence how major health institutions defined post-COVID conditions [1].

Patient communities often attempt to engage in policy-making by introducing claims and providing various forms of evidence for strengthening the claims. One such form is scientific visualizations, which are institutional visualizations produced for expert audiences. Members of the patient communities hold first-hand knowledge about their disease. Members frequently share visualizations from institutions like the FDA that present information directly related to their conditions. However, there is limited understanding of how to design visualizations that integrate both experiential and institutional knowledge without risk of misinterpretation.

To fill this gap, we adopt a data humanism perspective, which argues that design should highlight the personal, contextual, and imperfect nature of data [2,3]. Our research examines how a neurodegenerative disorder community communicates its needs and values by using scientific visualizations on a social media platform. We demonstrate that when visualizations migrate from scientific to social contexts, their forms and functions can change. Form changes when people modify the visualizations e.g., by adding annotations. Function changes when people use visualizations to express values, e.g., data represents real life, and share community knowledge, e.g., firsthand experiences with the disorder. We conclude that patient communities transform scientific visualizations into humanistic tools for policy discourse, reshaping both the visualizations' meaning and policy-making processes.

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Teaching with Machines: How Instructors Are Navigating Opportunities and Challenges of Generative AI

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Teaching requires instructors to make decisions about how to structure courses, support student learning, and assess students' understanding [4, 5]. Furthermore, new technologies–like generative AI–influence how instructors plan and teach their courses, as well as how students learn [1, 6]. For example, instructors use generative AI (GenAI) to create assignments and generate lecture content [2]; students use GenAI to complete assignments and clarify complex concepts [1]. However, there is limited understanding of how instructors rethink their teaching roles and pedagogical practices in response to GenAI. Teaching roles refer to instructors' responsibilities and identities in the classroom (e.g., facilitator, evaluator, mentor) and pedagogical practices describe the methods instructors use to support learning (e.g., discussions, practice problems, feedback). Moreover, it is unclear how instructors redesign their classes to ensure learning and preserve critical thinking among students who use GenAI [3]. Many departments in humanities–like English, history, and philosophy–emphasize creative or interpretive work; STEM courses focus primarily on technical skills. In contrast, human-computer interaction (HCI) education involves all of these: creative work, human-centered perspective, and technical skills, making it a useful site to examine how GenAI shapes teaching and learning. Using semi-structured interviews with HCI instructors across different universities, our research answers three questions: 1) How do instructors want/intend to use GenAI in their classes? 2) What challenges arise from the use of GenAI in classes? and 3) How do instructors redesign their classes to include the use of GenAI? Answering these questions can help instructors create courses that account for GenAI use. Understanding instructors' views can inform university policies on GenAI use in classrooms. Furthermore, by identifying the challenges instructors encounter, developers can design better GenAI tools for education.

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