

Mapping the Responsible Democratization of Generative AI through Participatory Futuring

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Abstract

Generative AI (genAI) is rapidly reshaping domains such as education, sustainability, art, and health. While its democratization promises broader access and innovation, it also risks reinforcing existing inequalities and introducing new ethical concerns. This workshop explores the responsible democratization of genAI, its use, development, governance, and distribution of benefits, through the lens of HCI. We invite HCI researchers, designers, and practitioners to collaboratively reflect on how genAI is being democratized across domains and how this process might evolve. Using the four perspectives proposed by Seger et al. (🗣️ use, 🛠️ development, 🏠 governance, 🛡️ benefits), we aim to identify emerging trends, tensions, and opportunities for shaping equitable genAI futures. Grounded in HCI, this workshop aims to foster interdisciplinary dialogue and contribute to inclusive and ethical genAI democratization by mapping current practices in different domains, exploring possible futures, and identifying trends and connections across the domains.

CCS Concepts

• Human-centered computing → HCI theory, concepts and models.

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Keywords

Generative AI, Democratization of AI, Speculative Design, Responsible AI, Health, Education, Arts, Sustainability, Manufacturing

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1 Motivation

Artificial Intelligence (AI) advances are happening at a fast pace; how we view and access AI has changed considerably in the last few years [35]. The exponential growth of Generative AI (genAI) has raised public awareness of its possibilities and risks [35]. As a response to the large impact, multiple parties are turning their attention to the *Democratization of AI*. However, the term is often used to point to a variety of different goals, which risks making it ambiguous or diffused, as illustrated by Seger et al. [47] and Lin [31] (see Figure 1). Most frequently, it is used as a synonym for 'accessibility': *Democratizing the Use of AI* 🗣️ [47] in both industry [8, 15, 18] and academia [31, 42, 45, 47]. From a developer perspective, it can also be understood as the *Democratization of AI Development* 🛠️ [47]. For instance, by creating no-code environments or publishing models with open weights [41, 44, 53]. A third perspective is the *Democratization of AI Governance* 🏠 [47]. Previous HCI work has turned towards participatory design to explore how AI governance might be democratized [12, 13, 25, 29, 43, 54].

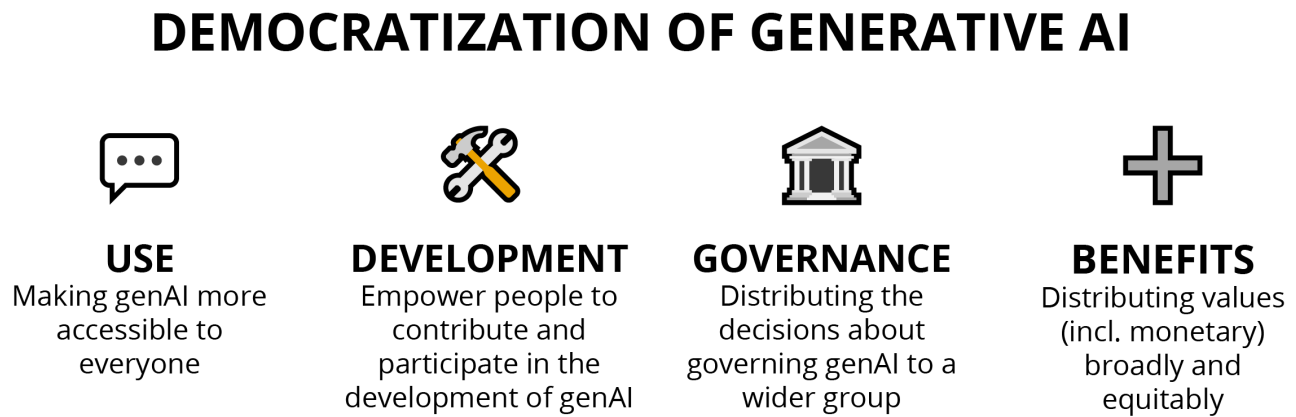


Figure 1: The four perspectives of democratizing generative AI as introduced by Seger et al. [47]

Finally, the fourth perspective of the democratization of AI is the *Democratization of AI Benefits*  [47]. These benefits could include the monetary benefits the companies are making from this technology, e.g. with a windfall clause [40], as well as broader benefits from having access to this technology.

The four perspectives of the democratization of AI are not mutually exclusive. Benefits can arise from increased access to AI tools or from the ability to develop models tailored to specific needs. Moreover, when more people are empowered to participate in AI development, it can foster a more inclusive and bottom-up approach to governance. In this way, democratizing development not only expands who can build AI but also who gets to shape the rules and values that guide its use. Alongside Seger et al.'s four layers of democratization [47], it is critical to look at responsible HCI and design approaches that emphasize on the need to deliberately anticipate and address the ethical and social implications of technology [32, 50].

Despite its frequent portrayal as an inherently positive means to broaden access, participation, and empowerment, the democratization of AI may generate unintended consequences. For instance, uneven access risks deepening the digital divide and leaving marginalized communities further behind [1]. Biases in AI datasets have led to AI-generated content that overlooks certain areas or communities, such as the Global South, creating stereotypical representations [21]. The development and maintenance of AI systems further rely on underpaid, often invisible labour for data annotation and content moderation [1, 7]. At the same time, large-scale models demand substantial energy and water, raising significant environmental concerns [30, 33, 35, 37], and without careful governance, democratization might inadvertently reinforce the dominance of big tech companies, whose infrastructure and platforms often serve as gatekeepers [3, 17, 56]. These considerations underscore the need for responsible approaches to AI democratization that emphasize inclusivity, sustainability, and transparency, while engaging with the broader ethical questions deeply intertwined with genAI.

Addressing these challenges requires a holistic, structural approach to ethics [5], one that situates genAI within its broader

socio-technical context [38]. We now stand at a threshold that necessitates moving beyond early speculative concerns (first wave) and narrow, bias-focused debates (second wave) toward what Bolte and Van Wynsberghe [5] describe as the *third wave* of genAI ethics, which examines underlying power structures and embeds AI within wider sociotechnical systems. [5]. In this workshop, we aim to explore the *responsible* democratization of AI, including sociotechnical systems directly and indirectly affected.

Therefore, this workshop will bring together HCI researchers, designers, and practitioners to map how the responsible democratization of AI is currently taking shape across key domains such as education, sustainability, art & creativity, social inclusivity & ethics, and manufacturing. By combining participatory futuring, the workshop directly supports and addresses the CHI 2026 theme *Creating Tomorrow Together*, by identifying existing solutions and envisioning concrete ways in which the HCI community can foster and operationalize responsible democratization of AI within its broader sociotechnical context.

2 Objectives and domains

The objective of this long-format workshop (two sessions) is to map and reflect on how genAI is currently democratized in different domains and how this might develop in the future. We will use the four perspectives (, , , ) of Seger et al. [47] as possible pathways for democratizing genAI.

Drawing upon the interdisciplinary expertise of the organizers, we focus on the following domains: education, health, sustainability, culture & society, art & creativity, social inclusivity & ethics, and the manufacturing industry.

Education. The democratization of genAI in education is characterized by both a rapid influx of tools and an urgent need to critically assess their role in teaching and learning. Since the release of ChatGPT in 2022 [36], an explosion of general-purpose and domain-specific AI applications (e.g., Learnt.ai) has opened up new opportunities for students, teachers, and support staff. Tools like ChatGPT can aid students in writing academic texts and processing literature across languages [26], which is particularly valuable

in increasingly diverse learning environments. The pace of AI integration in educational platforms raises questions about responsible adoption, institutional readiness, and the risk of widening the digital divide, as not all educators and students are equally equipped to engage with these tools [62]. A pushback against the uncritical adoption of AI in education is also taking root among an increasing number of educators [14]. Beyond efficiency gains, generative AI offers opportunities for inclusivity by enabling more personalized learning experiences, adapting materials to different backgrounds and competence levels, and supporting diverse learning styles [24, 46]. This holds particular promise for students from underrepresented groups, such as those with a migration background or those who are neurodiverse. In this workshop, we want to explore how genAI can be responsibly democratized in education, balancing its empowering potential for personalization and inclusion against the challenges of equity, ethics, and sustainable implementation.

Health. The democratization of genAI in health and medicine should be seen as a multidimensional process that extends well beyond access. Rubeis [45] maps the concept across four main visions: improving care through AI 🗨️, enabling healthcare professionals to handle AI technology 🧑‍⚕️, access to and oversight of data 🏠🔗, and embedding AI into democratic governance 🏛️. Against this backdrop, recent applications show how genAI can contribute: it can assist self-tracking by helping individuals refine health queries and interpret data, though limitations arise when outputs fail to align with personal goals [9]. Other studies use it to generate synthetic data to simulate rare disease cases while reducing reliance on sensitive patient data [4] or train medical students with AI-driven virtual patients [64]. Yet, such opportunities require clear attribution of AI's role, accountability in its deployment, and safeguards for autonomy and trust. In this workshop, we invite participants to reflect further on how the democratization of genAI in health can be directed toward trust, accountability, and autonomy, and what trade-offs this entails for HCI and related domains.

Sustainability. Democratizing genAI in the domain of sustainability can consider the potential of genAI for sustainability or the consequences of the sustainability of genAI [57]. Research on the first has shown how genAI can contribute to tackling environmental issues and contribute to the sustainable development goals [48, 60] or even how some activities might be done more sustainably by genAI compared to humans [55]. The latter focuses on the environmental impact of genAI, including water and electricity consumption as well as carbon emissions [30, 33, 35, 37]. The HCI field has started to reflect critically the costs of the increasing use of genAI, for instance, the costs of using genAI in design education [34], the costs of a general-purpose model [33], or the CO2 emissions in CHI research [19]. In this workshop, we invite participants to reflect further on the environmental consequences of democratizing genAI and its potential consequences.

Art & Creativity. GenAI models have shown potential to democratize the creative landscape by augmenting artists' skills and enabling non-experts with limited access to technical or artistic training to produce professional-level creative outputs [2, 27]. However, the swift progress and widespread adoption of GenAI raise

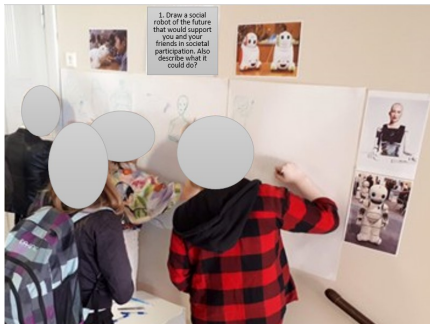
critical questions about creative ownership and integrity, including intellectual property rights, lack of attribution, and conflicting value systems, as well as concerns about bias, fairness, and diversity in outputs [11, 23, 58]. Positioning AI's role with respect to the human agency in creativity needs to be considered [61]. Highlighting a central duality, art and creativity serve both as a space for early adoption and as a tool for activism and resistance. GenAI has enabled easy visualisation of future visions and creative worldbuilding (see Figure 2c), contributing in societal discussions through speculative design [28, 39]. In this workshop, we examine the trade-offs between GenAI's empowering potential and the ethical challenges it introduces within creative ecosystems.

Social Inclusivity & Ethics. AI has the potential to improve the lives of many users, however it also risks leading to Digital Design Marginalization for many underrepresented groups [51]. Digital Design Marginalization highlights how the introduction of a new technology can create barriers to not only the use of that particular technology, but also "downstream" exclusion from, e.g. services or products that are transitioning from being delivered physically to only or primarily being available digitally. An example is perhaps the most ubiquitous form of interactive AI – conversational user interfaces such as those found in smart speakers. These are exclusionary of various populations, ranging from older adults [52] to racialized communities [6]. GenAI has also been reported to create culturally biased outcomes [21], as the algorithms emphasize Western influence, neglecting Global South or Indigenous contexts. In this workshop, we invite HCI researchers to reflect on methods and approaches that will help ensure that the democratization of GenAI is grounded in ethical considerations for the inclusion of underrepresented populations.

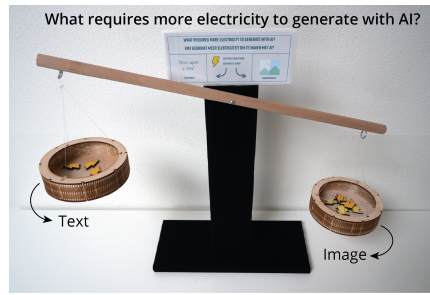
The Manufacturing Industry. In the manufacturing industry, developing systems to support processes such as training, guidance, and on-the-job assistance remains a slow and labour-intensive effort. GenAI offers opportunities to accelerate this by creating adaptive content [49, 63] and personalized assistance, which can improve efficiency and contribute to worker autonomy and well-being. Evidence from adaptive learning in assembly contexts [59] shows positive effects on user enjoyment and learning efficiency. However, applying GenAI in highly structured, accuracy-critical environments raises challenges around reliability, transparency, and alignment with diverse user needs. Moreover, to maintain a sense of agency and allow for evaluation, attribution is crucial [16] to help users understand when AI-guided decisions are made. These considerations hold for operators as well as for trainers, supervisors, and developers. Addressing these challenges requires human-centered design and careful integration into existing workflows. In this workshop, we invite participants to reflect on how the democratization of GenAI in manufacturing can be directed toward fostering enhanced trust, accountability, worker well-being and autonomy using human-centered approaches.

2.1 Open questions

The democratization of genAI can take different shapes within these domains and trigger different questions. Within the workshop, we



(a) Civic robots for youth participation [22]



(b) Participatory Data Physicalizations on the environmental impact [20]



(c) Speculative worldbuilding for societal discussion on green transition [39].

Figure 2: Examples of the type of research that fit within the scope of this topic

are interested in exploring topics related, but not limited to, the following questions:

- What is the role of HCI in the democratization of AI (💬, 🏠, +)?
- How can we broaden meaningful participation in the responsible democratization of AI (💬, 🏠, +)?
- How can the use of generative AI be democratized 💬 to people with diverse literacy and socioeconomic levels?
- How can generative AI be used to personalize systems and democratize the benefits + without creating bias?
- What are possible (intended and unintended) consequences of the democratization of generative AI (💬, 🏠, +)?
- How does the empowerment and inclusion of people in developing or customizing their own systems 🏠 change or impact their lives?
- How can the benefits of democratizing AI + be equally distributed within and across domains?
- Who should be involved in decisions around and about the development and governance of genAI 🏠?

3 Organizers

Anniek Jansen is a PhD student in the Department of Communication and Cognition at Tilburg University. Her research interests lie in the cross-section of design, AI and ethics. She is currently working on projects related to the democratization of AI from a healthcare and sustainability perspective, adopting research through design approaches.

Supraja Sankaran is an Assistant Professor in the Department of Communication and Cognition at Tilburg University. Her research lies at the intersection of HCI, design and ethics. Her current research primarily focuses on exploring human-centred AI using design research, primarily focusing on the domains of healthcare, education, and sustainability.

Matilda Kalving is a doctoral researcher at Tampere University in Finland. Her research explores how design, emergent technology, and creative practice come together. She is currently examining how genAI tools shape artistic and design processes, with a particular interest in human-AI interaction, prototyping, computational creativity, and the role of craft and identity in technological shifts.

Kaisa Väänänen is professor of Human-Technology Interaction in Tampere University, Finland, where she leads the research group of Human-Centered Technology. Kaisa has three decades of experience of interdisciplinary research both in industry and academia, focusing on Human-Centered AI for sustainability.

Eva Geurts is a postdoctoral researcher at the Digital Future Lab of Hasselt University (Belgium). Her work centers on human-centered technology design, with a particular focus on interactive technologies such as mixed reality. She is currently exploring how AI can support the personalization of systems and the generation of adaptive training content, with applications in manufacturing and workplace well-being.

Gustavo Rovelo Ruiz is an Assistant Professor of Computer Science at Hasselt University's Digital Future Lab and Flanders Make. His research focuses on Human-Centered AI and adaptive, intelligible user interfaces, applied to personalized learning in higher education and manufacturing, with particular attention to student and worker well-being.

Cosmin Munteanu is an Associate Professor and Schlegel Research Chair in Technology for Healthy Aging at the Department of Systems Design Engineering, University of Waterloo, and Director of the Technologies for Ageing Gracefully lab. They are a transdisciplinary scholar, focusing on the sociotechnical design of inclusive interfaces such as conversational user interfaces with and for older adults.

Aakash Johry is an Assistant Professor in the Department of Design at Indian Institute of Technology Delhi where he leads the GAMES (Gaming, Augmented and Mixed-reality Experiences and Simulations) lab. Using a research-through-design approach, his work explores how technology can be made more inclusive and accessible, with a focus on learning and well-being.

Jonna Häkkilä is a professor at the University of Lapland, Finland, Faculty of Art and Design. She conducts research at the cross-section of design and technology and is interested in using AI for research through design approach and the cultural bias of AI tools.

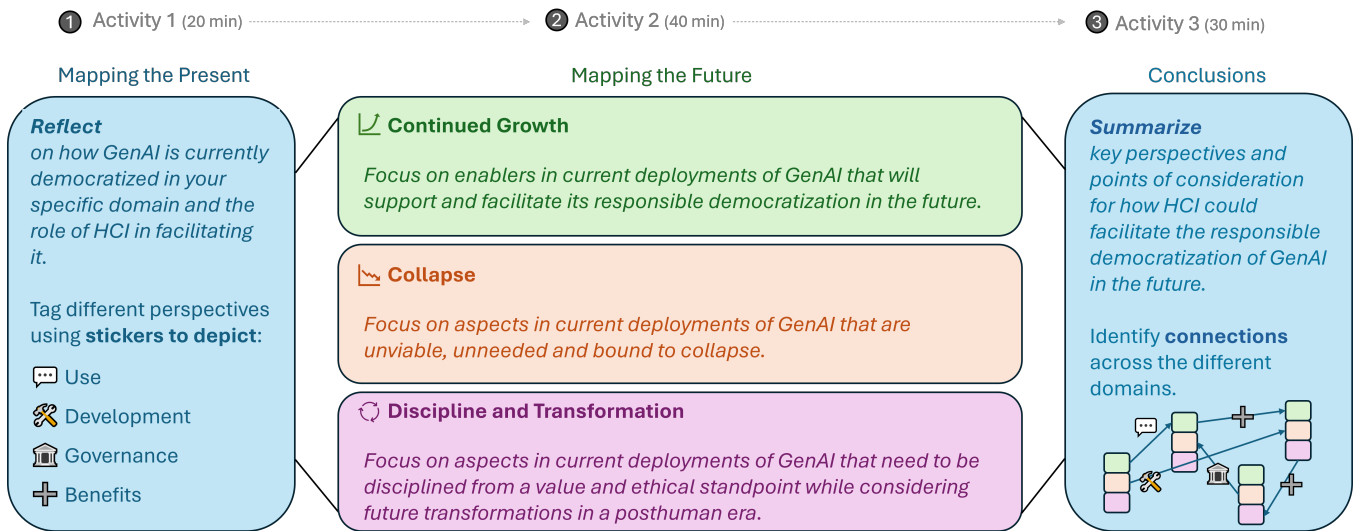


Figure 3: An overview of the interactive activities during the workshop

4 Workshop Plans

4.1 Pre-Workshops Plans

The workshop information will be hosted online at the following link: <https://tiu.nu/demcrAI>. The website will host the call for participation and any further information regarding the workshop. Before the workshop, we will send a registration form to all participants to inquire about information regarding accessibility needs and consent to publish their submission online.

4.2 Paper Submission and Review Process

To select a diverse set of participants across different domains, we ask participants to submit a short position paper (up to four pages) discussing their work or perspectives on the responsible democratization. To streamline the submission and review process, we will use EasyChair. A program committee consisting of Dr. Davide Spano (University of Cagliari), Prof. Albrecht Schmidt (LMU Munich), Prof. Emiel Krahmer (Tilburg University), Dr. Amir Payberah (KTH Royal Institute of Technology), Dr. Ashley Colley (University of Lapland), together with the workshop organizers, will review and carefully select incoming submissions based on their suitability to the workshop, diversity across the domains, and quality. Accepted submissions will be published on ArXiv.

4.3 Workshop Activities

We plan an in-person workshop session of two 90-minute sessions, which will centre around presenting discussions in the first session and mapping the current and future context in the second session. We are aiming for around 30-35 participants. Below is our tentative schedule, subject to changes in accordance with the CHI 2026 schedule.

- (1) **Welcome (10 mins):** Brief welcome and introduction by the organizers.

- (2) **Author presentations (70 mins):** Authors will present their submission in a Pecha Kucha style presentation.
- (3) **Introduction activities (10 mins):** Introduction and explanation of the workshop activities and formation of groups based on the key domains.
- (4) **Break (30 mins)**
- (5) **Mapping the Present (20 mins):** In groups, participants reflect together on how genAI is currently democratized in their domain and the role of HCI in facilitating this. They are asked to identify the different perspectives of democratizing AI in this landscape of work.
- (6) **Mapping the Future(40 mins):** Based on the map of the present, the groups will extend their vision and explore how the democratization of genAI will develop in the future. To this extent, we invite them to reflect on what aspects might experience continued growth, which aspects might collapse, and which need to be disciplined and/or transformed (activity inspired and adapted from [10]).
- (7) **Summarizing (30 mins):** The different perspectives across domains will be summarized to identify connections and reflect on how HCI could facilitate the *responsible* democratization of AI.

4.4 Accessibility

The submissions should comply with the CHI accessibility guidelines. Before the workshop, we will send a survey to all participants to investigate if extra support is needed. We will also make the workshop materials and any output from the workshop accessible by adhering to the CHI accessibility guidelines.

4.5 Post Workshop Plans

After the workshop, the results will be synthesized into an overview of how the responsible democratization of genAI is taking shape now and in the future in different domains and what the role of

HCI can be in these developments. We aim to publish this synthesis as an article in *Interactions*.

5 Call for Participation

The rise of generative AI across diverse domains calls for a reflection on how genAI can be democratized responsibly. In this long-format in-person workshop, we seek to map the present and the future of the democratization of genAI in diverse domains and explore the role of HCI in guiding these developments in a responsible manner. We invite researchers, designers and practitioners to submit a short position paper (2-4 page ACM single column template) to share their work and current research related to the responsible democratizing of AI in one of the focus domains of this workshop: *education, health, sustainability, culture & society, art & creativity, social inclusivity & ethics, and the manufacturing industry*. Topics of interest include, but are not limited to

- Research methods addressing democratization of AI
- Case studies and applications
- Ethical explorations

Submissions can be made through EasyChair, more information on <https://tiu.nu/demcrAI>, and should be accessible PDFs. The submissions will be evaluated by the program committee and the organizers on suitability for the workshop, diversity across domains, and their quality. Accepted submissions will be published on ArXiv. At least one author of each accepted submission must attend the workshop. All participants must register for the workshop.

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