

Yang, Tianling et al.

**Book Part — Published Version**

## AI x Crisis: Tracing New Directions beyond Deployment and Use

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*Suggested Citation:* Yang, Tianling et al. (2025) : AI x Crisis: Tracing New Directions beyond Deployment and Use, In: Association for Computing Machinery (ACM) (Ed.): Computing (X) Crisis : AR Adjunct '25: Adjunct Proceedings of the Sixth Decennial Aarhus Conference, ACM Digital Library, New York, NY, USA, pp. 1-4,  
<https://doi.org/10.1145/3737609.3747096> ,  
<https://dl.acm.org/doi/proceedings/10.1145/3737609>

This Version is available at:

<https://hdl.handle.net/10419/325702>

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# AI x Crisis: Tracing New Directions beyond Deployment and Use

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## Abstract

Faced with multiple, intersecting crises, numerous computing technologies have emerged and interacted with the crises. Amidst the growing prominence of AI, the discourses on AI-related harms predominantly focus on AI deployment and use, shifting attention away from their social and structural underpinnings. In response, this workshop seeks to reflect and map how AI intersects with the crises through framing the *costs of AI*. With *costs of AI* we refer to the human and natural toll of AI systems, such as labor exploitation, environmental degradation, and perpetuated social inequality, and emphasize the inherent and inevitable trade-offs in AI development and use. We invite contributions on various forms of AI-related costs, and critical engagement with methods to approach and address these costs. This workshop aims to (1) map the various costs of AI; (2) explore and reflect on concepts, frameworks, and methods to approach and engage with them; and (3) foster exchanges and collaborations in an interdisciplinary community.

## CCS Concepts

• **Human-centered computing** → **Human computer interaction (HCI); Collaborative and social computing.**

## Keywords

AI ethics, labor, environmental sustainability, AI harms, infrastructure

## ACM Reference Format:

Tianling Yang, Srravya Chandhiramowuli, Jana Heim, Camilla Salim Wagner, Julian Posada, Alex S Taylor, Rafael Grohmann, and Milagros Miceli. 2025. AI x Crisis: Tracing New Directions beyond Deployment and Use. In *Adjunct proceedings of the sixth decennial Aarhus conference: Computing X Crisis (AAR Adjunct 2025)*, August 18–22, 2025, Aarhus N, Denmark. ACM, New York, NY, USA, 4 pages. <https://doi.org/10.1145/3737609.3747096>

## 1 Introduction

The past decade has borne witness to multiple, intersecting crises ranging from climate catastrophes to deepening socio-economic disparity and political polarization. Numerous computing technologies have been created *within* these crises, and some even *in response* to them. Nevertheless, many of them *fuel* the very crises they seek to alleviate, such as worsening disparities, aggravating climate impacts, and perpetuating extractive and colonial tendencies [6]. Further, the urgency and magnitude of these crises have been capitalized to justify the proliferation and adoption of scalable technological solutions, while undervaluing more locally and socially grounded alternatives. During this period of massive, uncritical



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AAR Adjunct 2025, Aarhus N, Denmark  
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ACM ISBN 979-8-4007-1968-4/25/08  
<https://doi.org/10.1145/3737609.3747096>

uptake of computing technologies, AI has been widely embraced and perhaps even celebrated as the poster child of technological innovation. Amidst its growing prominence, there is also increasing public concern over AI’s tendency to reproduce socio-historical biases [1] and deepen inequalities [8]. Much of this discourse centers harms arising from AI’s adoption in varied contexts and spurs redressal efforts focused on improving the design or performance of such systems. However, technical fixes and the underlying focus on model design are co-opted by narratives of inevitability, shifting attention away from the social and structural underpinnings of AI [3].

Reflecting on this decade marked by computing’s uncritical uptake and AI’s unchecked proliferation in the face of multiple, overlapping crises, we aim to engage with the varying, uneven impacts of AI by framing them as *costs*. *Costs* acknowledge the inherent and inevitable trade-offs in the development and use of AI systems, emphasizing the disproportionate burdens experienced in infrastructuring, improving, and maintaining AI and the need to account for and engage with various actors, especially those from the Majority World [22] that tend to be overlooked in WEIRD (i.e. Western, Educated, Industrialized, Rich, and Democratic) conceptions of AI ethics [21]. *Costs* thus offer a lens to foreground the multiple aspects of crises our worlds face and critically reflect and map how AI intersects with these crises — by addressing, reshaping, or deepening them.

This workshop aims to recognize and trace the ways how AI intersects with crises and create space for collective and critical reflections. The workshop objectives include: (1) mapping the various costs of AI, (2) exploring and reflecting on concepts, frameworks, and methods to approach and address these costs, and (3) fostering exchange and collaboration in an interdisciplinary community that critically investigates the multi-faceted AI-related impacts.

## 2 Significance of the Workshop

While predominant discourses center on harms in AI deployment and use, considering AI-related costs means exploring multiple ways and dimensions in which AI technologies are interwoven with crises. For instance, the development and use of AI technologies require large-scale **human labor**, such as in data generation [5, 16], verification of automated outputs [26], and maintenance [7], leading to the extraction of data and labor globally [9, 16]. Moreover, centering **infrastructures of computing** recognizes the materiality of computation and AI, including cables [24], data centers [11], and cloud infrastructures [18], and reveals the implications of tech giants’ dominance and control over critical AI infrastructure, such as economic centralization, smaller companies’ structural dependency on these infrastructures, and the potential of homogenization in knowledge production [4, 15]. Additionally, despite being presented as a solution to combat climate changes, current AI systems are resource-intensive and have considerable **environmental impacts** regarding energy consumption [25], carbon emissions [19], water usage [14], lithium extraction and broader transformation of territory into resources and assets [12]. This raises an open question whether using AI technologies to combat climate catastrophe will create a larger environmental footprint overall [20].

Moreover, critical literature has pointed out that technical “fixes” to improve design or performance of AI systems can potentially shift attention away from the social and structural underpinnings of AI [17], whereas participatory methods may risk having shallow and even extractive community involvement, and masking hierarchical power structures within such settings [2, 23]. Considering broader AI-related costs shows pathways to **alternative methodologies**, such as community-driven approaches [13], asset-based approaches [27] and action research [10]. These methodologies call for fostering changes that are grounded in social contexts and in networks of communities and stakeholders, such as building communities’ capacities, providing infrastructures and resources, and facilitating them to gain more agency.

Aarhus 2025 conference centers on new perspectives and alternatives to discuss how computing has interacted with and transformed societies. We want to use this unique and timely opportunity to facilitate proactive discussions on different types of AI-related costs and re-imagine alternative ways to drive transformative change.

## 3 Topics of Interest

In this workshop, we propose two guiding questions: *What different types of costs of AI are there? How can research communities meaningfully engage with AI-related costs?* We present four interconnected topics below and welcome further perspectives.

- **Human labor in AI production and use:** What types of labor are integral to AI pipelines? What are their contexts, conditions, and characteristics? What types of costs arise from these labor practices?
- **Infrastructures of computing:** What are the consequences of the increasing and structural dependence on AI-related infrastructure controlled by tech giants?
- **Environmental costs of AI:** How can we measure, quantify, track, and visualize the environmental impacts the AI sector brings? How can we conceive of climate justice given the uneven distribution of benefits and environmental impacts in AI development and use?
- **Alternative methods to engage with AI-related costs:** What are the theoretical frameworks, methodologies, and empirical cases to strengthen negotiation, resistance, and re-imagining of AI costs and futures?

## 4 Workshop Organization

### 4.1 Participant Recruitment

We expect an audience size of around 15-20 participants (the organizers excluded), and encourage submissions from different professional backgrounds (e.g. academia, industry and NGOs) and various disciplines (e.g. critical computing, HCI, sociology, STS, infrastructure studies). We invite position papers (2-4 pages, excluding references) in ACM submission format. We plan to distribute the CfP on social media, specific mailing lists, and relevant Slack channels.

### 4.2 Workshop Activities and Tentative Schedule

- 9:30 - 11:30: Welcome, Introduction and short paper presentations by participants.

- 11:30 - 11:45: Coffee break
- 11:45 - 12:30: Break-Out Group Discussion: Discussion in groups based on thematic focuses of position papers. This session will provide a space for the exchange of experiences, challenges, and constructive feedback.
- 12:30 - 13:45: Lunch
- 13:45 - 15:00: Plenary Discussion: Mapping out various costs of AI, including relevant stakeholders, relationships, and contexts.
- 15:00 - 15:20: Coffee break
- 15:20 - 16:50: Break-Out Group Discussion: Brainstorming and Method Reflection. Groups based on methods from participants' position papers. Each group will choose a specific cost of AI, discuss how it can be addressed, and reflect on the strengths and limitations of particular methods and approaches.
- 16:50 - 17:30: Wrap-Up: brief presentation of the discussions in the previous activity to the large group.
- Optional: Group Dinner

## 5 Outcomes

With the consent from the authors, we will publish a collection of submitted position papers as a workshop proceeding on ArXiv. This proceeding will also include a report summarizing key discussion points during the workshop. Moreover, we intend to facilitate networking and sustained collaboration among participants through a mailing list. Prior to the workshop, we will share a document with short bios of participants to get to know each other. Post-conference, the mailing list will serve as a platform to discuss and share relevant events and publications.

## 6 Organizers

**Julian Posada** is an Assistant Professor of American Studies at Yale University and a member of the Yale Law School's Information Society Project and the Yale Institute for Foundations of Data Science. His research integrates theories and methods from information science, sociology, and human-computer interaction to examine how technology is developed and used within various historical, cultural, and social contexts.

**Camilla Salim Wagner** is a research assistant at TU Berlin and the Weizenbaum Institute. As part of the Data Workers' Inquiry team, she conducts community-based action-research to study the data work industry and support workers' organization efforts.

**Tianling Yang** is a doctoral researcher at TU Berlin and at the Weizenbaum Institute. Her research focuses on social and institutional contexts of the production of machine learning datasets, as well as actors and stakeholders in the global AI supply chains.

**Jana Heim** is a doctoral researcher at the Weizenbaum Institute and WZB Berlin Social Science Center. Her research examines knowledge practices and digital technologies, particularly machine learning systems, and the social dynamics of their development and use.

**Srravya Chandhiramowuli** examines the role of human values in data annotation and AI development. Her current research examines the work of data annotation for AI, to envision and inform just,

equitable futures of AI. She is a PhD candidate in the Institute for Design Informatics at the University of Edinburgh.

**Alex Taylor** has been contributing to Science & Technology Studies and Human-Computer Interaction (HCI) for over twenty years. His interests are in how digital technologies are co-constitutive of forms of knowing and doing, and, as a consequence, provide a basis for fundamental transformations in society. He is a Reader at Design Informatics, University of Edinburgh.

**Rafael Grohmann** is an Assistant Professor of Media Studies at the University of Toronto Scarborough. He is the leader of DigiLabour initiative, the PI for Worker-Owned Intersectional Platforms (WOIP – an action research with delivery and tech workers in Brazil and Argentina), an editor for the journal *Platforms and Society*, and a member of Fairwork and Tierra Común.

**Milagros Miceli** is head of the research group “Data, Algorithmic Systems and Ethics” at the Weizenbaum Institute and Research Lead at the Distributed AI Research Institute (DAIR). She leads the Data Workers' Inquiry, a community-based research project and platform for data workers across the globe.

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