Methodological Considerations for Centering Workers' Epistemic Authority in AI Research

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Abstract

The global AI industry is fueled by hidden and precarized labor, yet worker voices remain largely absent from the research that studies them. This paper introduces *Workers' Inquiry as a Research Methodology* or WIRM, a participatory methodology designed to shift AI research away from extractive practices and toward co-production with workers. Grounded in Marxist Workers' Inquiry, WIRM centers workers as community researchers who shape the design, interpretation, and framing of research. We describe how WIRM was developed and implemented in the Data Workers' Inquiry (DWI) project across multiple countries, highlighting how the methodology adapts to diverse contexts of economic, physical, and political precarity. Rather than presenting empirical findings, this paper focuses on the methodology itself: its theoretical roots, structural components, and practical execution. We offer three case illustrations to demonstrate the method's flexibility and limitations. We conclude by reflecting on key challenges and tensions, and propose WIRM as a replicable framework for worker-led AI research.

Introduction

The global AI industry fundamentally depends on human labor: workers who collect and annotate data, monitor and maintain algorithmic systems, keep data centers running, and mine rare earth minerals—not to mention the artists, translators, writers, and actors whose work fuels so-called generative AI.

This paper redirects attention to those workers. We argue that centering their lived experiences and analyses offers the most effective pathway to understanding and addressing the conditions of AI development. We introduce *Workers' Inquiry as a Research Methodology* or WIRM, a methodological framework grounded in Marxist Workers' Inquiry with elements of Participatory Action Research (PAR). WIRM acknowledges workers in the AI supply chain not as passive research subjects but as active *community researchers* (The Distributed AI Research Institute 2022) with deep expertise in their own labor conditions and workplace struggles.

Workers' Inquiry, originating with Marx's 1880 questionnaire (Marx 1880), treats research as a tool for collective understanding and political transformation, placing workers' analyses at the center of social critique. WIRM aligns with similar proposals grounded on PAR to engage those who might otherwise be the objects of research to actively shape research questions and methods (Howard and Irani 2019; Woodcock 2014; Barabas et al. 2020). Following the understanding articulated by Harding (1998), we consider WIRM a methodology and not a method because it outlines an epistemologically grounded theory of how research should proceed.

We developed and implemented WIRM in a community-centered research project called Data Workers' Inquiry (DWI)[1] to collaborate with data workers—those involved in data annotation, content moderation, and AI system maintenance—and other AI laborers. Through DWI, we built collaborative structures across multiple countries and contexts of economic and political precarity, enabling workers to lead investigations into their working conditions. While we briefly reference examples from DWI to illustrate the methodology in action, the primary focus of this paper remains on the methodology itself, showing how WIRM can be an effective tool to center workers' voices in discussions around AI research, production, implementation, legislation, governance, and ethics.

The main contribution of this paper is making WIRM accessible, transparent, and replicable to others who wish to apply it. We provide a practical framework for researchers, organizers, and policymakers interested in exploring critical questions in AI technologies through the lens of those directly involved in and impacted by their development. While WIRM was developed in partnership with data workers, we suggest its relevance to other worker groups whose labor remains hidden yet essential to technological infrastructures.

Methodological choices are not neutral; they are a site of ethical and political commitment. Through this work, we contribute to ongoing calls to decolonize AI ethics (Couldry and Mejias 2019; Posada 2022; Krishna et al. n.d.; Mhlambi and Tiribelli 2023; Adams 2021; Mohamed, Png, and Isaac 2020) by demonstrating how research design can serve not only the advancement of academic scholarship but also organizing efforts, workers' dignity, and epistemic justice.

In what follows, we situate WIRM within relevant literature on AI work and research, describe our positionality as

[1]https://data-workers.org/.

researchers and organizers, and outline WIRM's four guiding principles. We then provide a step-by-step breakdown of the methodology's implementation, illustrated through three case vignettes that demonstrate WIRM's adaptability across contexts. We conclude by reflecting on tensions, limitations, and the broader implications of WIRM for AI ethics, policy development, and, fundamentally, knowledge production.

Related Work and Definitions

The Labor that Fuels AI

AI cannot be developed and properly function without much hidden human labor (Bender and Hanna 2025).

Some of it, such as the labor that goes into cleaning and annotating training data or verifying algorithmic outputs (Tubaro, Casilli, and Coville 2020), is constant and in real-time. We call this labor data work (Miceli and Posada 2022). Data work also encompasses content moderation for social media, which is "data annotation put into practice in real-time or near real-time" (Abdelkadir et al. 2025), highlighting that content moderators also produce the data to train hate speech detection models (Gillespie 2020). The tasks performed by data workers account for around 80% of the hours spent on AI development (Cognilytica Research 2019).

Much of this labor is performed digitally, usually hidden from the public through socio-technical arrangements of job distribution, which are made possible by crowdsourcing platforms (Irani 2015) and business process outsourcing companies (BPOs) (Miceli, Schuessler, and Yang 2020; Le Ludec, Cornet, and Casilli 2023; Muldoon et al. 2024). A growing body of critical scholarship on data work describes a globally dispersed and precarious workforce (Casilli 2025; Webster 2016; Posada 2022; Miceli 2022; Muldoon et al. 2024; Woodcock and Graham 2020; Grohmann and Qiu 2020; Tubaro, Casilli, and Coville 2020; Miceli et al. 2024).

Data workers are often exposed to deeply psychologically disturbing content (Roberts 2019; Hao and Seetharaman 2023; Kauffman and Williams 2023; Gebrekidan 2024). The wages are low (Hara et al. 2018; Perrigo 2023), especially considering the value data workers generate (Best 2024; Butollo 2019; Fuchs 2014). Wage theft is pervasive, either in the form of unpaid breaks (Miceli and Posada 2022), unpaid overtime and training (Miceli, Schuessler, and Yang 2020), or through mechanisms such as rejections of completed work (McInnis et al. 2016; Kauffman and Williams 2023) and minimum withdrawal limits on platforms (Posada 2024). Data workers are often hired from vulnerable backgrounds (Williams, Miceli, and Gebru 2022; Shitawa 2024) to ensure dependency and the perpetuation of this form of "institutionalized wage theft" (Miceli and Posada 2022).

While WIRM was developed in collaboration with data workers in the context of the Data Workers' Inquiry project, the methodology is designed to accommodate the unique needs and dispersed nature of other workforces equally critical to AI development, for instance, those working at data centers and along mineral supply chains.

While scholars have examined data centers' environmental and political impacts (Edwards, Cooper, and Hogan 2024; Bridges 2024; Marx 2024), less attention has been paid to the expanding workforce critical to maintaining this infrastructure. In the U.S. alone, data center jobs grew by 17% from 2017 to 2021, reaching nearly 468,000 workers (DataCenterCoalition 2023), and this number has likely increased exponentially with the AI boom in the past decade.

Beyond data centers, AI hardware depends on rare earth minerals, such as tin, tungsten, tantalum, and cobalt, sourced through complex and often exploitative supply chains (Crawford 2021; Valdivia 2024). In the Democratic Republic of Congo, where much of the cobalt and the "three Ts" are mined, workers—often children and people in extreme poverty—labor under hazardous, violent, and sometimes enslaved conditions (Brigham 2023; Smith 2022; Kara 2023).

Despite increasing public attention, supply chains remain opaque, and the human costs of AI infrastructure persist largely unexamined.

Workers' Inquiry

WIRM draws inspiration from Karl Marx's Workers' Inquiry (Marx 1880), reimagined for the context of AI labor.

In his 1880 appeal to the French working class, Marx argued that only workers could fully articulate the conditions they endure, and that they alone—not external saviors—could pursue remedies for social injustice. He called for "exact and positive knowledge" of their daily realities, inviting workers to respond to 100 questions, in an effort aimed at fostering political self-awareness as a foundation for collective action. The call was titled "A Workers' Inquiry."

In broader terms, the workers' inquiry approach is intended as a format for political intervention, a tool for the mobilization and organization of workers' struggles. This approach was picked up both by Trotskyists and the Operaismo movement (Woodcock 2014; Haider and Mohandesi 2013) to account for the technological changes of the means of production, the rise of Taylorism throughout the 20th century, and their effects on the composition of the working class (Braverman 1998).

In recent years, workers' inquiry was adapted by several projects to uncover the political logic of global, technologically-mediated worker exploitation. For example, the collective Kolinko conducted a workers' inquiry in call centers in 1999 (Kolinko collective 2010). More recently, Notes from Below has supported and published workers' inquiries conducted in diverse sectors, including hospitality, healthcare, and platform work (Notes from Below 2018). As described by Gallagher, Gregory, and Karabaliev (2023), the Workers' Observatory conducted inquiries with on-demand delivery workers in East Scotland. The authors coined the term "Worker Data Science" (Gallagher, Gregory, and Karabaliev 2023; Gregory n.d.) to describe workers' inquiries that delve into the digital space, aiming at developing tools that facilitate measurable insights into working conditions and the algorithms that manage platform workers.

Referencing Gramsci's plea for "organic intellectuals" as emerging from a social group with distinct economic interests (Cammett 1967), these projects share a common denominator in their appraisal of the workers' inquiry as a mode of

collective sensemaking of workers' struggles, where the active participation of workers bolsters organizational efforts based on in-depth research on the many facets of workers' exploitation (Woodcock 2021). As argued by Dalal (2024), the workers' inquiry approach holds potential not only for involving affected workers in research but also for auditing existing AI systems "from within."

Participatory Action Research

WIRM aligns with Operaismo's proposal of a "participatory action research" (Woodcock 2014) agenda to engage those who might otherwise be the objects of research to actively shape research questions and methods (Howard and Irani 2019). The rich history of PAR guides our methodological considerations when examining our role vis-à-vis workers and our emphasis on collaboration and solidarity. PAR puts forward an orientation towards change with substantive grassroots participation, combining scientific research with political action (Fals-Borda 1987). The main goal is to address power imbalances and oppressive social structures—to create action as a catalyst for social change (Lawson 2015; Swantz 2008).

PAR emerges as an alternative to positivist science, blending ontological critiques of neutrality with a materially grounded critique of capitalist oppression to propose a new form of critical knowledge production (Fals Borda 1981). Grounded in a recognition of power and material asymmetries, PAR emphasizes the complementary roles of academic and popular knowledge. Specifically, WIRM builds on the Latin American tradition of PAR, which conceives knowledge creation, conscientization, and action as interconnected, collective processes (Peruzzo, Bassi, and Silva Junior 2022), and frames scientific inquiry as a tool for emancipation (Brandão 2006).

Especially when it comes to researching and developing technologies, critical voices (Birhane et al. 2022; Cooke and Kothari 2001; Sloane et al. 2022) have argued against vague mentions of participation that can serve as an empty communicative strategy in what Sloane et al. (2022) call "participation washing." The authors' invitation to critically examine the existing participation practices in machine learning design resonates with Pretty (1995) call to acknowledge diverse forms of engagement ranging from passive forms of participation to bottom-up self-mobilization.

In line with Birhane et al. (2022), we "seek to move away from transactional engagements towards forms of vibrant participation that (...) increase community knowledge and empowerment." In this sense, WIRM enables spaces for dialogue-driven and collaborative sensemaking and action, where workers guide the process towards their own priorities.

Workers' Inquiry as a Research Methodology (WIRM)

WIRM is a methodology because it operates within a well-defined epistemic and ethical framework of how research should be (Harding 1998). While WIRM prescribes specific techniques and steps for research, it grounds them within an empirical and theoretical field, with a specific purpose and perspective. Guided by the principles that we describe in the following subsections, WIRM engages deeply with questions of epistemic justice, the use of research as a tool to support organizing efforts, and the worker-led production of knowledge that leads to on-the-ground action. It emphasizes community researchers' agency, collective reflection, and political relevance (Spinuzzi 2005; Lather 1991; Fals Borda 1981).

While rooted in Marx's workers' inquiry, WIRM integrates elements of PAR and introduces new components to reflect contemporary production dynamics and capital flows in the AI era. Traditional workers' inquiries establish a defined relationship between researchers and workers, aiming to produce precise knowledge articulated by workers (Alquati 2019). WIRM embraces co-research instead, emphasizing PAR's focus on collaborative knowledge production and relationships that extend beyond research toward activism. It also foregrounds the recognition of workers' contributions as both knowledge producers and laborers.

In the following sections, we outline the core elements of WIRM, providing a detailed account for those seeking to understand or replicate this approach. We begin by situating our positionality as the organizing group, acknowledging the perspectives and motivations that shaped the project. Next, we provide contextual background on the DWI project to ground the reader in the methodology's application. Finally, we present the methodology itself, structured into three key components: first, its guiding principles; second, a step-by-step breakdown of the process; and third, concrete examples from DWI illustrating how these steps and principles were enacted in practice.

Our Positionality

The authors of this paper are a group of researchers, data workers, and activists. We are the organizers and creators of the Data Workers' Inquiry (DWI) project and the ones coordinating the efforts of the community researchers we engage with. In this paper, we refer to ourselves as *the organizing team* to differentiate ourselves from the data workers who serve as community researchers.

As researchers, some of us have been working with and advocating for data workers across the globe for many years. One of us is a data worker and organizer with years of experience in the field. Our formal education backgrounds are in sociology, computer science, political science, geology, and philosophy of technology. Together, we are proficient in a variety of languages, including English, German, Ndebele, Shona, Spanish, Portuguese, Amharic, Tigrinya, Italian, Arabic, and French, which was key for establishing durable relationships and trust with workers in diverse geographical locations. We hold affiliations with DAIR, which is an internationally distributed, independent research institute, and two academic institutions in Germany: TU Berlin and Weizenbaum Institute.

Building and maintaining trust with the data workers who serve as community researchers is an ongoing task, as is reflecting upon our power and privilege. Our positionality is constantly renegotiated throughout the process and in

the specific context of each collaboration (Stoecker 2003; Le Dantec and Fox 2015; Marshall and Rotimi 2001).

The Data Workers' Inquiry Project

DWI is a community-centered, worker-led research project focusing on AI data work. The project is "community-centered" because it offers a platform for data workers—the community directly involved in the phenomenon under research—to lead the inquiry and produce insights that are useful to them (Miceli et al. 2024). Between 2023 and 2025, DWI engaged 25 data workers from Syria, Lebanon, Venezuela, Colombia, Germany, Brazil, France, Spain, Nigeria, and Kenya to serve as community researchers. They developed unique research questions and explored them in their respective workplaces.

Each worker (or group of workers) produced a piece resulting from the inquiry and decided on the piece's format. The cohort created 21 works, including zines, comics, podcasts, animated videos, documentaries, and written reports, exposing different aspects of data work: wage theft, uncertainty and lack of security, the exploitation of migrant workers, the psychological toll of the work, and gendered experiences of exploitation and violence in the AI industry were some of the dimensions explored in this phase. All pieces are available in the project repository[2].

In this paper, however, we focus on WIRM, the methodology we developed for and applied to DWI, and not on the project findings.

WIRM's Guiding Principles

WIRM is not straightforward, and the road to its development has been a continuous exercise in reflection. WIRM centers workers whose labor creates and maintains AI technologies as experts in their collective experience and decisive actors within AI supply chains.

Our methodology is guided by the four principles that we outline below.

Conducting Community-Centered Research. We reject parachute research (Bockarie 2019; Brereton et al. 2014; Simpson 2007), in which researchers "drop by" a community to extract data for their own gain. Instead, we are committed to creating spaces where workers guide the direction of the research, ensuring it aligns with the needs of their communities and the goal of building workplace power (Stoecker 2003; Jason and Glenwick 2015). We see this approach as a mode of collective sensemaking that serves on-the-ground action. Unlike traditional research, where there is a clear hierarchical separation between researchers and "subjects" or "participants," we invite workers to serve as community researchers.

Centering Workers' Expertise. We center workers' epistemic authority as the primary protagonists of the phenomena they investigate and shape. In explicit opposition to extractive research, we build on insights from decolonial praxis (Indígena (FSI) Fundación Sabiduria and Kothari 1997) and feminist ethics of care (Warnock, Taylor, and Horton 2022), and compensate workers for their time, expertise, and contributions (more details on payment in the section below). Community researchers have agency to lead the research process, collaborate with members of their own communities, and work in their preferred languages. They hold authorship and ownership over the pieces they produce. We defer to their leadership and expertise when making decisions around the inquiry.

Leveraging Research to Support Organizing Efforts. The third principle is our commitment to actionable insights and real change over academic prestige. We prioritize findings that serve community interests and accessible presentation formats to ensure that the findings resonate beyond academic spaces and serve as a vehicle for organizing. The voices of the community researchers—not ours—are foregrounded in written outputs, public presentations, press, and policymaking discussions. This way, WIRM is a process for generating knowledge-for-action and knowledge-through-action, in service of the goals of workers (Cornish et al. 2023).

Prioritizing the Safety of Community Researchers. As a precarized and politically disempowered labor force, many AI workers' research endeavors expose them to potential risks. Prioritizing their protection is therefore central to WIRM. Community researchers have full control over their level of anonymity and the risks they take. These potential risks are exhaustively discussed throughout the process, and legal experts, union representatives, and trauma therapists are available for consultation and counseling. At the recruiting stage, we prioritize workers who have experience in organizing and have the knowledge and networks needed to navigate risks.

WIRM, Step-by-Step

This section details the four main phases of our methodology. These phases are structured here for clarity, but in practice, they are not strictly linear. In fact, WIRM requires constant exchange between the organizing team and the community researchers, as well as much on-the-spot decision-making.

Step 1: Recruiting and Onboarding. The first stage focuses on identifying and engaging community researchers. In the DWI project, we resorted to the relationships we built over years of collaboration with data workers. In that case, recruitment criteria were defined based on two non-negotiable requirements: community researchers were data workers, either on platforms or through BPOs, and were involved in organizing efforts at some level. Additional considerations include geographical diversity, political relevance, and the inclusion of workers from diverse work environments to broaden the project's scope.

Exploratory interviews with potential candidates are conducted. Some of these interviews are in groups, in cases where more than one worker from the same company is interested in joining the project. For DWI, we invited community researchers to a 50 to 70-hour engagement spanning

[2]https://data-workers.org/#Inquiries

PHASE	STEPS & TO DOs	CHALLENGES & TENSIONS
Recruiting and Onboarding	- Identifying and engaging community researchers considering geographical and occupational diversity. - Conducting exploratory interviews with potential candidates. - Onboarding: signing paperwork; establishing project goals, timelines, and expectations. Discussing potential risks.	- Building trust. - Making sure workers have full knowledge of participation risks. - Acknowledging power imbalances.
Research Training and Inquiry Development	- Discussing and refining the inquiry angle. - Providing structured in relevant research methods. - Pairing community researchers with a designated member of the organizing team for close support. - Maintaining constant communication and regular check-ins. Mental-health support, if needed. - Procuring necessary resources and, if needed, additional collaborators (e.g., illustrators, translators, videographers).	- Risk of transactional relationships instead of bonds of solidarity. - Offering support, declining leadership. - Navigating diverging needs for (in)visibility.
Preparing the Research Output	- Organizing and analyzing collected data. Distilling insights. - Selecting an appropriate presentation format. - Ensuring the pieces' accessibility through captioning, alt-text, etc. - Implementing protective measures including anonymization and legal scrutiny.	- Balancing academic expectations with community needs. - Securing funding. - Constant translation work. - Adapting to shifting academic conditions.
Dissemination of Findings and On-the-Ground Action	- Creating an inquiries repository - Creating project descriptions and visual materials; collecting author bios. - Establishing licensing and referencing guidelines. - Organizing public-facing events. - Supporting collective demands and further organizing efforts. - Creating new opportunities for long-term collaboration.	- Protecting the identities of workers who need anonymity. - Retraumatization risk; need for mental health support. - Proactive, jurisdiction-specific legal counseling.

Table 1: WIRM's phases and steps, linked to their respective challenges and tensions.

two to three months. We compensated each community researcher with a €35 hourly rate. This rate is equivalent to the hourly wage an entry-level researcher receives in academic institutions in Germany, where most of us live, and the maximum we could afford with the funds we had. Considerations around the extent of the engagement and compensation can vary depending on the project, but community researchers should be compensated at a rate that reflects the value of their contribution and corresponds with the organizing team's salaries (Langness et al. 2023).

Onboarding includes a structured orientation where project goals, timelines, expectations, and potential risks are discussed. The onboarding sessions are facilitated through guiding questions and templates to help community researchers develop their respective research questions and design, and later, guide their own investigations. All documents, including contracts and consent forms, are available in several languages[3], and collaborative readings to discuss their content are offered. Logistical support is offered for tax documentation and invoicing.

Step 2: Research Training and Inquiry Development. After the onboarding, planning workshops help frame the inquiries. Training on research methods and data management is provided in structured group sessions, and the community researchers receive a certificate for their participation in the training. Additionally, each community researcher is paired with a member of the organizing team who serves as their primary advisor throughout the project. Pairings are determined based on shared language, familiarity with the inquiry's focus, and existing rapport and trust.

Each community researcher pursues a unique angle and conducts interviews/surveys/group discussions with their co-workers to generate a collective description of the working conditions and work experiences. Each inquiry has a dedicated budget to cover additional participant and collaborator compensation (e.g., for survey and interview participants, as well as illustrators, designers, and videographers where needed), and potential travel expenses for the community researcher. The budget is managed by each community researcher, and templates are provided to support these management tasks.

Regular check-in sessions are held to address gaps, discuss progress, and ensure rigor is maintained. Flexibility is key, as different community researchers may require varying degrees of support. Mental health support is offered to community researchers who need it to prevent retraumatization. Ideally, mental health support extends beyond the engagement.

Step 3: Preparation of Research Outputs. After data collection, community researchers organize and analyze their findings. The findings can be presented in diverse for-

[3]All templates are available under Creative Commons license on the project's website https://data-workers.org/.

mats, adapted to each workplace's material and political conditions. The community researchers choose their preferred output format from various media such as comics, zines, written reports, documentaries, animated films, and podcasts.

For creative projects that require specific skills, such as those of illustrators, videographers, or translators, best practices include encouraging community researchers to find skilled collaborators within their own community.

Post-production measures, such as voice distortion, image blurring, and pseudonymization, are taken to protect those community researchers who wish to remain anonymous, as well as their coworkers. The accessibility of the pieces for people with visual and hearing impairments is ensured through accessible PDFs, alt-text, subtitles for audiovisual materials, and other measures depending on the format.

Before publication, each work undergoes scrutiny by local legal professionals in each jurisdiction to protect workers from legal liability.

Step 4: Dissemination of Findings and On-the-Ground Action. The final phase focuses on sharing the research outputs and leveraging them for worker organizing goals.

This stage starts by creating a website to host the project repository. The community researchers draft project descriptions and author bios for the website, and visuals that best represent each work are selected or commissioned. The community researchers are provided with checklists and templates that help them manage their projects and keep track of important aspects, such as accessibility and GDPR compliance.

The pieces are uploaded to the repository and released under the community researcher's name unless anonymity is preferred. They are made available under Creative Commons BY with suggested citations provided, to ensure that they can be cited, used, and remixed with proper acknowledgment. Given that many community researchers are bound by NDAs, fear workplace retaliation, and find interviews often retraumatizing and exploitative, the goal is to produce research outputs that speak for themselves and are broadly accessible, enabling journalists, researchers, and educators to use and remix the pieces without requiring workers to reveal their identities or participate in additional exchanges.

These efforts run in parallel with organizing initiatives, where the insights produced through the inquiries inform on-the-ground action. In most cases, collaboration extends beyond the initial engagement, evolving into a mutual exchange. When community researchers find it helpful, the organizing team supports worker-led efforts over the long term and creates opportunities for them to present their work and share their perspectives in public and academic debates.

WIRM in Use

In this section, we illustrate how WIRM is applied in practice. The following vignettes present three of the 21 inquiries conducted during the first phase of DWI in 2023–2025. Rather than focusing on the specific findings, we center our discussion on the collaborative processes and methodological decisions that shaped each inquiry.

Meta Content Moderators in Germany. This inquiry involved a group of three content moderators employed by Telus Digital in Germany. Telus Digital is a large Canadian outsourcing company that operates globally, including a significant presence in Europe. The three community researchers work moderating user-generated content on Meta's platforms, especially Facebook and Instagram. At the moment of joining DWI, the workers were already organized through a workers' council at their workplace and articulated a nuanced understanding of their labor conditions.

The inquiry began with the adaptation of Marx's original questionnaire, which was modified by the community researchers to better fit their occupation, workplace realities, and goals. The group expanded the scope of the questions to include issues such as work-life balance and the professionalization of content moderation.

The group chose to produce a podcast as the main research output. This format was selected to make the findings accessible and engaging to a broader audience, including other workers. They used the adapted questionnaire to guide the conversations and invited co-workers to be interviewed for the podcast.

Given the sensitive nature of their work and the risk of workplace retaliation, protecting the community researchers and their interviewees was paramount. Despite the fact that all community researchers had signed tight NDAs with their employer, they decided to publicly name both Telus Digital and Meta in the podcast, ensuring their demands were clearly directed. As a consequence, several protective measures were necessary: pseudonyms were used for the community researchers and the co-workers they interviewed, recordings were done in German to minimize the risk of recognition through accents in English, and their voices were distorted in post-production. The podcast, titled "From Data Workers to Data Workers: Precarious Working Conditions in Content Moderation and their Consequences on Workers"(Anonymous 2024), is available in the project repository[4].

To ensure good audio quality, we engaged a professional podcast studio and a producer in the community researchers' area. Once the podcast was released, transcriptions were made available in both German and English to ensure accessibility. Before publication, the podcast underwent careful legal review and counseling by legal experts in Germany to mitigate risks. At the point of joining the project, the community researchers were members of ver.di, an established trade union in Germany. However, the union did not provide any legal protection, a fact that was consequently brought up in the podcast discussion.

The inquiry did not stop at research outputs. The grievances and demands articulated in the podcast were transformed into a formal letter addressed to members of the European Parliament. This letter was read aloud by the first author of this paper during a parliamentary hearing, amplifying the workers' voices at a political level. Moreover, the

[4]https://data-workers.org/essen/

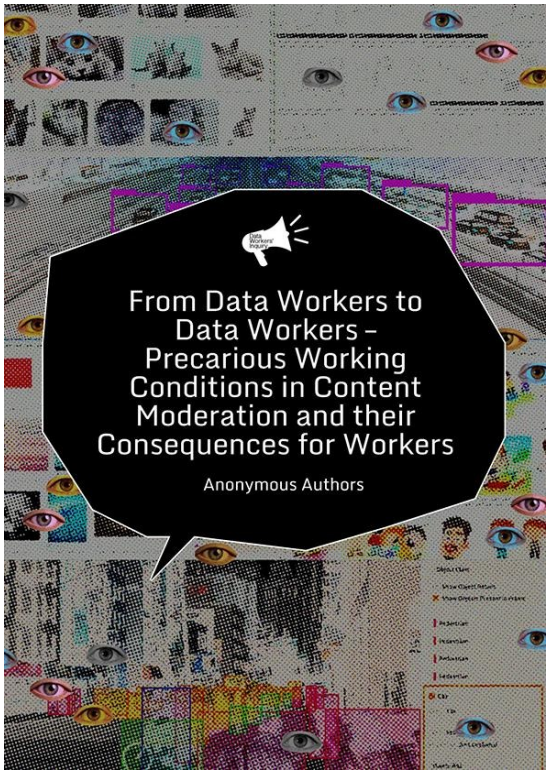

Figure 1: Cover of the podcast produced by anonymous Meta content moderators in Germany.

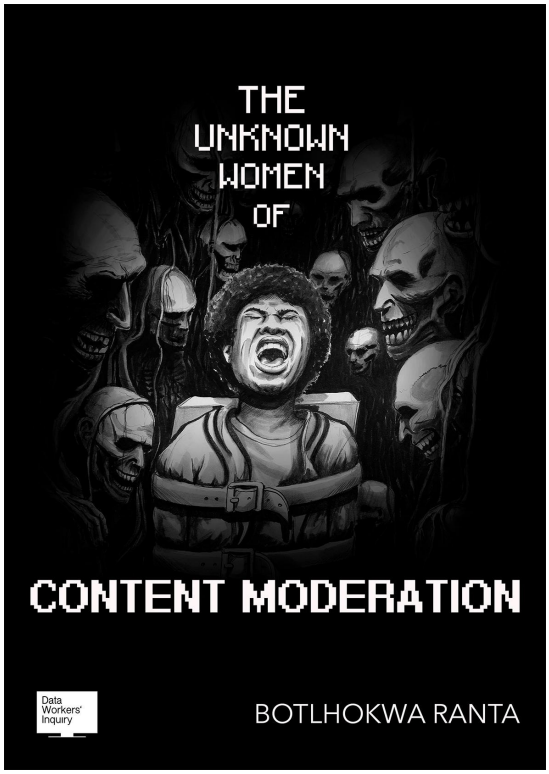

Figure 2: Cover of the zine developed and authored by Botlhokwa Ranta.

collaboration with these community researchers is ongoing. A second iteration of the inquiry is underway, expanding the focus beyond Europe. Parallel on-the-ground initiatives also aim to address the aforementioned persistent lack of support from traditional trade unions in Germany.

Female Migrant Workers in Kenya. This inquiry was led by Botlhokwa Ranta, who worked as a content moderator for Meta through Sama, an outsourcing company based in Nairobi, Kenya. Sama, like other BPOs, manages large-scale content moderation for tech giants, employing workers under precarious conditions.

Initially, Botlhokwa Ranta was onboarded alongside three of her co-workers as a group, with the possibility of working collectively or individually. Due to differing interests, angles of inquiry, and some internal conflicts within the group, they decided to pursue separate projects. Ranta's focus emerged clearly then: she wanted to investigate the specific perils faced by migrant women at Sama, particularly highlighting gender-based violence and the precarious dependency on work visas that exacerbate their vulnerabilities.

To document these stories, she conducted a series of in-depth interviews with female co-workers, compiling a powerful yet delicate archive of testimonies. Ranta's own experiences as a migrant woman informed her perspective. She decided to create a zine, an accessible, visually engaging medium that could both honor these stories and communicate their gravity to broader audiences. The zine "The Unknown Women of Content Moderation" (Ranta 2024) can be downloaded from the DWI repostory[5].

As the project progressed, Ranta gathered an impressive number of interviews, but the process of transforming interview transcripts into a cohesive narrative proved challenging. She had never undertaken a project of this nature before and, at times, felt overwhelmed by the responsibility of doing justice to these sensitive accounts. We provided support, assisting her in structuring the zine's narrative to balance emotional depth with critical structural analysis. In agreement with Ranta, we engaged a professional copyeditor to support her during the editing process.

The zine needed illustrations, and we encouraged Ranta to find a visual artist within her community. When initial samples did not meet her expectations, we mobilized our networks to present her with additional options. Ultimately, she chose to work with a graphic designer from Brazil and an illustrator from Germany, collaborators she felt best understood her vision.

As the project developed, it became evident that revisiting stories of gendered and sexual violence was retraumatizing for Ranta. This prompted us to engage a trauma therapist, who was made available to her and the other community researchers during and after their engagement with DWI. This experience underscored the importance of staying flexible and acting fast, and was a good reminder that WIRM is never

[5]https://data-workers.org/ranta/

straightforward.

Through her inquiry, Ranta learned that a group of migrant data workers were stranded in Nairobi after being dismissed following a legal action against Sama and Meta (Perrigo 2022), with no means to return to their home countries. Many had mounting debts, unpaid rent, and expiring visas. Ranta initiated efforts to support these workers, and we mobilized other organizations and networks to provide assistance. Together, we established a fund that ultimately enabled 11 women to secure new passports and purchase tickets home, providing a critical intervention that extended beyond research and demonstrated the utility of the inquiry as a means for mutual support and organizing.

Data Work in Latin America. This piece was authored by Oskarina Veronica Fuentes Anaya, a Venezuelan data worker living in Colombia and working for various outsourcing platforms. The author balances her work responsibilities with chronic illness and caretaking obligations.

Fuentes Anaya is part of a larger group of Latin American data workers connected through Facebook and WhatsApp groups. Although she was the only one from these groups to join DWI formally, she remained in constant communication with her peers, consulting with them regularly throughout her inquiry. The author and her peers decided it was best not to name the platforms they work on or the tech companies that outsource through such platforms. Fuentes Anaya, however, published the inquiry under her own name.

To present her findings, the author created an animated video. The animation was scripted by her in collaboration with her peer network. She recorded the narration, and the visual work was carried out by an artist from Fuentes Anaya's own circle. The decision to work with a visual artist she knew and trusted allowed her to oversee the visual production directly, ensuring her vision was faithfully executed. The animated video was produced in Spanish (the author's first language), with subtitles added in both Spanish and English.

Creating the video posed certain challenges, particularly the need to distill complex labor dynamics into a concise narrative without losing critical context. However, this difficulty was mitigated by the author's deep connection to her peers and her intimate understanding of their collective struggles. The animated film, titled "Life of a Latin American Data Worker" (Fuentes Anaya 2024), was grounded in a clear analysis of local economic conditions, contextualizing the wages offered by outsourcing platforms in the precarious financial situation that is prevalent in Latin America[6]. One of the most powerful insights from this inquiry is the crucial role of digital networks in sustaining data workers. For Fuentes Anaya, these networks are not just auxiliary; they are key to survive in an environment where formal labor protections are scarce or nonexistent.

Beyond the animated video, Fuentes Anaya, together with peers, synthesized the grievances and demands into a collective statement. This statement served as the basis for Fuentes Anaya's testimony at the European Parliament, as well as several academic and public presentations she undertook later. In these forums, she not only shared her own experiences but also represented the collective voice of her community, calling for better protections and greater visibility for data workers in Latin America.

[6]The video is available at: https://data-workers.org/oskarina/.

Figure 3: Cover of the animated video scripted and produced by Venezuelan data worker Oskarina Fuentes Anaya.

Discussion

Labor is not peripheral to AI systems; it is constitutive. From content moderation to model validation, from data center maintenance to cobalt and lithium mining, it is human work—often precarious, outsourced, and hidden—that fuels AI (Bender and Hanna 2025; Williams, Miceli, and Gebru 2022; Dinika 2024).

In the few instances in which labor is acknowledged, it is typically framed in terms of impact, i.e., how AI disrupts employment, rather than as a site of origin, exploitation, and political struggle. Thus, the upstream realities of AI supply chains remain underexamined. WIRM addresses this gap by shifting the focus to the point of production, insisting that any serious conversation about AI ethics and justice must include the workers who make these systems possible.

Through WIRM as applied to the DWI project, data workers revealed harms that originate in how AI is produced, how it is governed, and how its value chain is structured. But WIRM is not merely a diagnostic tool. It is also a methodological and political intervention. It not only centers the lived experiences of AI workers but also their capacity to theorize, analyze, and act. In so doing, WIRM resists the relegation of workers to the role of empirical objects, in-

stead positioning them as intellectual agents and political actors. Our work joins a growing chorus (Miceli and Posada 2022; Gallagher, Gregory, and Karabaliev 2023; Fals Borda 1981; Cornish et al. 2023; Woodcock 2021; Lather 1991; The Distributed AI Research Institute 2022; Grohman, Mendonca, and Woodcock 2023) calling for research that is not just about workers but *with* them, and in solidarity with their struggles.

A critical open question raised by WIRM concerns the role of workers as what Gramsci termed "organic intellectuals" (Gramsci 1992). Unlike traditional intellectuals who see themselves as class-neutral, organic intellectuals are embedded in the material conditions and collective struggles of their social class (Cammett 1967). Many of the community researchers in DWI produced analyses that are incisive, politically motivated, and deeply contextual. Yet their ability to translate these insights into broader political interventions was often constrained by workplace NDAs, limited organizing infrastructure, and the institutional boundaries of research itself. Rather than seeing these limitations as failures, we understand them as reflective of the conditions under which worker-centered epistemologies take shape. If WIRM does not automatically produce organic intellectuals, it at least cultivates the conditions in which such intellectuals might emerge, namely, through spaces for reflection, tools for analysis, and networks of solidarity. This, we argue, is no small contribution.

While WIRM brings with itself a set of contradictions, tensions, and limitations that we outline in the section below, this paper offers a practical framework for researchers, organizers, and policymakers seeking to examine critical issues in AI technologies from the perspective of those directly involved in their production. To date, WIRM has been effective in collaborations with data workers, but we envision its application extending to other segments of the AI supply chain, including data center workers, semiconductor assemblers, and those engaged in the extraction of rare earth elements.

We also argue that WIRM holds value well beyond the AI sector. The issues it addresses—namely, epistemic injustice, labor invisibilization, and extractive knowledge production—are pervasive across numerous domains, from logistics to care work, from location-based gig platforms to green tech. As such, WIRM is not only a methodology for studying AI work, but a broader invitation to rethink who produces knowledge, under what conditions, and toward what ends. It is a reassertion that knowledge production and collective emancipation exist in a dialectical relationship, sustained through both research and political practice.

In a field increasingly dominated by corporate narratives and technocratic fixes, WIRM offers a different vision: one where AI ethics begins not with code, but with the labor that sustains it; not with abstract principles, but with situated experiences; not with institutional compliance, but with collective struggle and solidarity.

Tensions, Limitations, and Lessons Learned

Throughout our experience developing and implementing WIRM, we have encountered a series of tensions that illuminate the complexities of worker-driven inquiries. They reveal critical points of reflection that highlight the methodology's limitations and the need for ongoing adaptation. They are sites of learning and opportunities for future work to deepen our understanding of the complexities of AI work and refine WIRM accordingly. We outline these tensions below.

Between Vulnerability and Empowerment. A persistent tension in our work was how to navigate the sharp power differentials between ourselves, as relatively privileged, global-North-based researchers, and the data workers we collaborated with. These asymmetries were not merely theoretical; they shaped WIRM profoundly.

Workers were bound by NDAs or precarious employment contracts, and being identified, even indirectly, could result in employer retaliation, reputational damage, legal trouble, and/or loss of income. We found ourselves constantly calibrating between the desire to center their voices and the ethical imperative to protect those very voices from harm. We were often in the position of advocating for visibility, through authorship, media, or testimony, while also recognizing that it is a privilege to be visible without consequence: *Who gets to be visible, and at what cost?*

Financial inequality deepened power asymmetries. Even with equitable compensation structures, the opportunity cost of participation varied enormously. This disparity forced us to confront uncomfortable questions about what genuine co-production means under uneven material conditions: *How do we ensure that participation is not a euphemism for exploitation, or that care is not weaponized into control?* Our experience shows that ethical research with precarized workers cannot be reduced to protocols or IRB forms. It requires infrastructural support, long-term relationships, and a willingness to be accountable beyond the publication cycle.

Between Workers' Goals and Academic Expectations. Podcasts, zines, and animated videos, while impactful and resonant within worker communities, often conflicted with what our institutions and professional communities recognize as academic publications. This divergence required us to continuously negotiate the project's boundaries to meet institutional expectations without compromising our methodological commitment to workers' agency and voice. In this space of negotiation, deeper epistemic questions emerged: *What counts as research? Who holds the authority to decide?*

Throughout academic presentations, funding reports, and public-facing documentation, we were intentional in centering the community researchers as the primary investigators and authors of the research findings. Yet, this approach occasionally led to skepticism about our own role. We were asked, sometimes pointedly, what our contribution had been if the data workers were the sole authors and main drivers of the inquiry.

While WIRM is grounded in the idea that workers are best positioned to investigate and articulate their experiences,

the need to secure institutional recognition and, importantly, funding to continue this work can often feel constraining. Such negotiations are ongoing, and they prompt larger questions about the structures of knowledge validation within academia.

Between Agency and Support. Our commitment to worker agency occasionally clashed with the need for guidance in project development and output creation. For example, decisions around the structure of narratives, the extent of copyediting, and the design of research outputs required intervention from the organizing team to ensure clarity and accessibility. Yet, each instance of intervention risked diluting the worker's authentic voice or imposing external expectations onto their work. This delicate balancing act remains an open question: *How do we stay true to workers' voices while also making sure that the pieces are legible and impactful? To whom should the pieces be legible?*

WIRM does not resolve this tension. It cannot. But it forces it into the open, requiring researchers to confront it, design for it, and remain accountable to it throughout the process. The task is not to "give voice" but to create infrastructures of care, protection, and redistribution that make those voices safe, sustainable, and politically meaningful.

Between Diverging Political Views. WIRM is an adaptation of Marxist workers' inquiry, and its theoretical principles are rooted in anti-exploitation and collective organizing. However, not all community researchers aligned completely with these principles. For example, during one inquiry, a community researcher openly expressed support for neoliberal economic policies and critiqued socialist frameworks. These stances clashed with the broader political orientation of the project and forced us to confront uncomfortable questions: *Are we essentializing workers by assuming their political views always align with WIRM's principles? Should the methodology also accommodate perspectives that do not necessarily fit within its ideological framework?*

On the one hand, WIRM aims to center workers' voices without imposing external narratives. On the other hand, the project itself is politically committed to challenging the exploitation inherent in the AI industry. Navigating ideological disjunctures without undermining worker agency is an ongoing struggle that speaks to the political complexities inherent to WIRM and, more broadly, participatory research.

Between Their and Our Definition of the Work. The community researchers participating in DWI were involved in a wide range of tasks, including data labeling, content moderation, algorithmic auditing, and AI impersonation (Tubaro, Casilli, and Coville 2020; Miceli and Posada 2022). However, their self-identification varied significantly. Some content moderators in Kenya saw themselves as *tech workers*, aligning their roles with the broader technology sector. In contrast, content moderators in Germany argued that they were indeed *data workers*, highlighting contributions to AI training. Conversely, a group of *data labelers* working on gig platforms emphasized the precariousness of their labor, distinguishing themselves from *content moderators* who, in their view, benefited from greater labor protections.

These differing perspectives complicate efforts to build collective identities and solidarity across the fragmented landscape of data work. They also raise critical questions about how advocacy should be framed. *Should campaigns emphasize shared experiences of exploitation, or should they recognize and respect all self-defined boundaries?* Addressing these conceptual gaps will be crucial, not only for collective action but also for advancing academic understandings of the heterogeneous nature of the labor that fuels AI.

Conclusion

This paper has introduced WIRM, a methodology for centering workers' epistemic authority in AI research that refocuses attention on the labor, agency, and material conditions that make AI technologies possible. By positioning workers as community researchers, rather than passive subjects, we offer a politically grounded approach to inquiry that is collaborative, reflexive, and accountable.

Implemented through the Data Workers' Inquiry project, WIRM has already generated outcomes that extend beyond academic contexts. Community researchers have produced widely circulated outputs. The project's online event series drew thousands of viewers, and its findings have directly informed policymakers (Miceli 2025). These outcomes demonstrate that WIRM can help shape public discourse, influence legislation, and create space for worker-led narratives in global AI debates.

The strength of WIRM lies not just in what it produces, but in how it transforms the research process itself. It challenges extractive conventions by redistributing authorship and building long-term, trust-based collaborations. It positions research as a political act, one that can contest power and support organizing efforts.

Developed through engagements with data workers, WIRM points toward broader possibilities for research with other frontline laboring communities often erased from narratives of technological progress. It contributes to growing efforts to decolonize AI by foregrounding situated knowledge and insisting on the legitimacy of worker-led theory-making. In an era where AI ethics risks being absorbed by institutional routines or corporate capture, WIRM reminds us that research can still be a tool for solidarity and resistance.

We offer this methodology not as a blueprint, but as an invitation: to reimagine how we conduct research, who is considered a knower, and what it means to build knowledge in the service of justice. WIRM opens a pathway for doing AI research otherwise, one rooted in collective struggle, dignity, and the right to speak from experience.

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