Artists on a Decade of AI Evolution: An Interview Study of Affordances, Culture, and Artistic Practice with Machine Learning

Téo Sanchez
Ludwig Maximilian University of Munich
Munich, Bavaria, Germany
Munich Center for Digital Sciences and AI (MUC.DAI)
Hochschule München University of Applied Sciences
Munich, Bavaria, Germany
teo.sanchez@lmu.de

Mariya Dzhimova
Institute for Arts Management and Media
University of Music and Theatre Munich
Munich, Bavaria, Germany
Munich Center for Digital Sciences and AI (MUC.DAI)
Hochschule München University of Applied Sciences
Munich, Bavaria, Germany
mariya.dzhimova@hmtm.de

Stacy Hsueh
University of Nottingham
Nottingham, United Kingdom
stacy.hsueh1@nottingham.ac.uk

Sarah Fdili Alaoui
Creative Computing Institute
University of the Arts London
London, United Kingdom
s.fdilialaoui@arts.ac.uk

Vaynee Sungeelee
Institut Des Systèmes Intelligents et de Robotique
Sorbonne Université, Institut des Systèmes Intelligents et de Robotique (ISIR)
Paris, France
vaynee.sungeelee@isir.upmc.fr

Baptiste Caramiaux
Sorbonne Université, CNRS, Institut des Systèmes Intelligents et de Robotique (ISIR)
Paris, France
baptiste.caramiaux@sorbonne-universite.fr

Abstract

In the mid-2010s, media artists began developing practices using machine learning (ML) as an artistic medium. Since 2022, the rise of large generative models, the mainstreaming of AI as consumer products, and intensifying ethical disputes have reconfigured the conditions of their artistic practice. This paper aims to understand how artists working with ML over the past decade respond to these shifts, shedding light on how practices, tools, and culture co-evolve. We address this question through thematic analysis of semi-structured interviews with 30 artists active before 2020. Our findings show how artists experience narrowing aesthetics and reduced malleability of post-2020 ML systems, have diverging views on where to locate moral responsibility with large AI models, and face shifting cultural reception that challenges the legibility of their work. We map how artists envision their practice going forward and discuss those orientations with respect to HCI conversations on design and creativity.

CCS Concepts

• **Human-centered computing → Empirical studies in HCI**; • **Applied computing → Media arts**; • **Computing methodologies →** *Machine learning*.

ACM ISBN 979-8-4007-2278-3/26/04
https://doi.org/10.1145/3772318.3790398

Keywords

Artistic practices, Interviews with artists, Artificial intelligence, Machine learning, Computer-mediated creativity

ACM Reference Format:
Téo Sanchez, Mariya Dzhimova, Stacy Hsueh, Sarah Fdili Alaoui, Vaynee Sungeelee, and Baptiste Caramiaux. 2026. Artists on a Decade of AI Evolution: An Interview Study of Affordances, Culture, and Artistic Practice with Machine Learning. In *Proceedings of the 2026 CHI Conference on Human Factors in Computing Systems (CHI '26), April 13–17, 2026, Barcelona, Spain.* ACM, New York, NY, USA, 17 pages. https://doi.org/10.1145/3772318.3790398

1 Introduction

In the latter half of the 2010s, a small group of media artists began to experiment with artificial neural networks. Their practices involved curating datasets, training custom machine learning (ML) models, and manipulating neural network architectures as a means to explore new aesthetic and creative territories [9, 38, 49]. The growing interest in this novel art scene resulted in conferences[1], exhibitions[2], auctions[3], and residencies [4] dedicated to machine learning in art. In the early 2020s, the socio-technical landscape of AI and ML has undergone profound changes. Machine learning is no longer a domain reserved for researchers, engineers, and artists; it has rapidly transformed into a constellation of consumer-oriented services, mainly using natural language descriptions to generate

[1] e.g., the *NeurIPS Workshop on Machine Learning for Creativity and Design* since 2017 and the *Computer Vision Art Gallery series* since 2018
[2] e.g., the Barbican Centre's exhibition *AI: More than Human* [20] in 2019
[3] e.g., the controversial sale of *Portrait of Edmond de Belamy* by the Obvious collective at Christie's in 2018
[4] e.g., the Google's *Artist + Machine Intelligence* grant and residency from 2016 to 2020

synthetic media—what is now known as *generative AI* (genAI). For instance, text-to-image (T2I) generators, marketed as a facilitator of creativity [8], have fueled online recreative practices [30, 47], and the conversational agent ChatGPT became the fastest-growing consumer software application in history. The diversification of creative usage using AI also triggers contentions among creative professionals. For instance, visual artists experienced plagiarism, economic and reputational harms [25] and express concerns over genAI's impact on the workforce and profit distribution [29].

This work builds upon long-standing HCI and computational creativity research, which has examined how people engage with algorithmic systems as creative partners, tools, and material. In particular, prior research has investigated the practice of trailblazing artists working with ML and AI [9, 38, 51] before the outbreak of generative AI in the early 2020s. These works revealed how artists leveraged ML as both material and process, curating training data, and inflecting training and inference processes [6] to craft their own aesthetic, stage interpretative ambiguities [51], and critically interrogate their relationship with AI research and industry [9]. This body of work portrays a pre-2020 moment of experimental practice situated within a specific socio-cultural context, exemplifying what Shelby et al. [49] describe as a *creative ML assemblage.* More recent work has examined the use of generative AI as a tool to support creativity and artistic expression [11, 44]. These works highlighted both opportunities and challenges of genAI for creation. For instance, opportunities may include efficiency gains with specific creative tasks [23] (e.g., Photoshop's Generative Fill), while challenges include genAI's limitations in understanding linguistic nuances [32], and outputs that privilege certain norms and culture while misrepresenting others [17, 32, 41, 53]. However, these studies capture snapshots of AI-related art practices at specific moments in time, or with heterogeneous AI technology and artist populations. What remains absent is an account of how early ML artists—those who established long-standing practices before 2020—have experienced and adapted to these socio-technical transformations.

Our research builds upon that work and asks the following research question: *How have socio-technical developments in AI over the past decade shaped the perspectives and practices of artists who have involved AI in their practice?* We address this question by conducting and analysing semi-structured interviews with 30 artists who have engaged with ML before 2020. Our research provides four contributions. First, this paper offers a decade-spanning account of long-standing artistic practices with machine learning. It shows how post-2020 shifts in AI reconfigure earlier accounts of artists' crafting ethos—particularly in relation to aesthetics, labor, and ethics. Second, we nuance earlier accounts of artists' ethical relationship with ML [9] by mapping three divergent views on where moral responsibility lies with large models. Third, we extend previous work on genAI's impact on artistic professions [25], showing that such harms are not limited to "artists for hire", but also affect media artists with long-standing practices related to ML, whose work now faces misunderstandings and suspicions from audiences and peers. Finally, we articulate three orientation modes through which artists envision the future of their practice. We show how these orientations embed epistemic assumptions about creativity [21]. Building on these insights—and on gaps in creativity-support tool research—we derive two research implications for the HCI community, aiming to better understand and support artistic practices with AI.

This article is organized as follows. Section 2 provides background about the emergence of the early machine learning art scene and situates our research regarding both empirical and theoretical work on the use of ML in art. Section 3 describes our methodological approach, including details about recruitment, the semi-structured interviews conducted, the data collection, and analytical methods employed. Section 4 presents the findings resulting from our analysis. We discuss these findings in Section 5, particularly their implications on HCI conversations about design and creativity. Finally, Section 6 derives two implications for HCI research and design.

2 Background and related work

This section situates our study within prior research. We first sketch the historical lineage connecting early AI systems for art and the field of computational creativity to the later emergence of the machine learning (ML) art scene. Second, we review empirical studies documenting ML-centered artistic practices within this art scene. Third, we turn to more recent work on generative AI, highlighting the diversification of creative practices using AI, including new opportunities and tensions within the creative economy. We conclude by outlining the research gap that motivates our study and its relevance for HCI.

2.1 Background: From computational creativity to the socio-technical assemblage of the ML art scene

The use of artificial intelligence in the arts builds on broader traditions of generative art, which employ an autonomous system (e.g., a dice, a computer program) to determine characteristics of an artwork that would otherwise require decisions made by the artist. Trailblazing artists such as Vera Molnár exemplify this approach, employing algorithmic procedures to generate repetitive configurations of deformable geometric forms [33]. In the 1970s, Harold Cohen developed AARON, an autonomous drawing and painting program that marked a shift from abstract toward representational forms, and explicitly linked generative art to artificial intelligence. Similar trajectory unfolded in music, where Daphne Oram and Laurie Spiegel explored computational generativity, followed in the 1990s by David Cope's investigations into "musical intelligence" and François Pachet's Markov-based systems for composition and improvisation [36]. These initiatives can be understood as manifestations of computational creativity, defined as "the philosophy, science and engineering of computational systems which, by taking on particular responsibilities, exhibit behaviors that unbiased observers would deem to be creative" [12]. In this sense, such systems generate novel content either by recombining learned elements or by transforming them to produce new forms [4]. Advances in AI research in the 1990s and 2000s introduced new systems that, while not explicitly designed to emulate creativity, exhibited compelling recognition and generative capacities. These progresses enabled artists such as Ken Feingold, David Rokeby, Laetitia Sonami, or Golan Levin, among others, to create generative and interactive works using technologies including natural language processing, pattern recognition, and computer vision [18, 37]. Finally, the advent of deep learning after 2012 attracted a new generation of artists and played a pivotal role in shaping the emerging ML art scene in the mid-2010s [1, 7].

This more recent machine learning art scene has been theorized by Shelby et al. [49] as a *creative ML assemblage*, borrowing sociological concepts [15, 27] that emphasize interconnections of human and non-human actors alike. Within the *creative ML assemblage* framework, artistic practices with ML are shaped by a dynamic interplay between people, artworks, critiques, new technology, institutions, and companies. Three institutional forces largely provided the intellectual, economic, and symbolic capital that established the ML art scene. First, *academic conferences* acted as sites of knowledge brokering [49], i.e., spaces that enable exchange, visibility, and validation between ML professionals and artists. Flagship examples include the *NeurIPS Workshop on Machine Learning for Creativity and Design* since 2017, and the *Computer Vision Art Gallery series*, hosted at ECCV (2018), ICCV (2019), and CVPR (2021). Second, *contemporary art institutions* conferred symbolic legitimacy and market support to a few artists. Exhibitions such as the Barbican Centre's *AI: More than Human* (2019) or the Jeu de Paume's *The World according to AI* (2025) popularized AI within contemporary art circuits. Art galleries such as bitforms (New York), the Digital Art Museum (Berlin), l'Avant Galerie Vossen (Paris), and Kate Vass Galerie (Zurich) support market access for a few artists, including within recent digital markets enabled by non-fungible tokens (NFTs). Third, *large tech companies* provided patronage. For instance, Google's *Artists + Machine Intelligence* (AMI) program combined financial support and technical mentorship, sponsoring about 25 artists working on machine learning. Other companies, including Meta, Nvidia, and, more recently, OpenAI, launched similar programs, though only supporting one or a few artists.

While we mainly describe the scene as before 2020, this assemblage is not static but continually reconfigured as technologies, institutions, and cultural forces evolve. We do not try to capture every possible influence (e.g., the role of public funding agencies) as the assemblage may be too complex to be exhaustively mapped. Instead, we emphasize the importance of studying artistic practices with ML as dynamic, co-evolving with broader socio-technical contexts, rather than as isolated activities. In the next subsection, we turn to prior research that has documented how artists engaged with ML as an artistic medium.

2.2 Portraying early ML-centered artistic practices

Before the 2020s, "AI art" was most often used to refer to the ML art scene described above, i.e., the practices clustered around machine learning as an artistic medium [9, 14]. In that context, Browne [7] delineates three kinds of "AI artists", spanning (1) *bricoleurs*[5] who creatively repurpose available ML technology for artistic ends while being outsiders of the scientific field, (2) *engineers*, often wearing a double technologist-artist hat and contributing to the open-source resources available to engage with ML creatively, and (3) *contemporary artists*, defined by Browne [7] in this context as artists who engage with AI as a new topic rather than a primary medium, and mobilize critical and conceptual traditions from mainstream contemporary arts (e.g., conceptual works that examine AI's infrastructures, labor, and cultural politics rather than the techniques and their aesthetics). Empirical studies [9, 38, 51] have documented the practices of the first two kinds of artists who engage with the materiality and processes of ML. Ploin et al. [38] and Caramiaux and Fdili Alaoui [9] interviewed renowned artists[6] active since the mid-2010s, while Sivertsen et al. [51] analyzed write-ups of nine artworks from the ML art scene. Collectively, these studies converge on two recurring characteristics of artistic practices with ML. First, they describe these practices as embodied, iterative, and labor-intensive. This labor may involve artists curating or creating entirely new training sets, sometimes with novel or personal ontologies [51]. For instance, Anna Ridler's *Myriad (Tulips)* (2018) exhibits an immense and hand-collected photographic dataset of tulips along with a video of a generative model trained on it, foregrounding the often-concealed human work behind ML systems. Second, artists embrace ML's unpredictability rather than avoiding it, in order to stage ambiguity and open-ended encounters. For instance, Robbie Barrat and Ronan Barrot's *Infinite Skulls* (2019) generates plausible but unrealized paintings of the painter Ronan Barrot. Visitors looking into a small viewing window are shown a unique painting—one that the painter never made, yet plausibly could have. In both cases, artists repurpose ML processes and develop crafting skills that contrast with performance-driven approaches of ML research and industry. For instance, artists may under-fit models, repurpose upscaling algorithms, or intervene at the level of the neuron layer to bend training or inference processes and introduce visual artifacts [6]. While invaluable in documenting the crafting ethos of early practices using ML, this research largely centers on a few renowned artists and provides only a static picture. What remains unexplored is how long-standing practices have unfolded through the profound technological and cultural transformations of AI in the early 2020s.

2.3 From artistic niche to mainstream generative AI: new practices, new divides

After 2022, the meaning of "AI art" drifted to describe a wider range of image-making practices, primarily centered on text-to-image (T2I) generation. "AI artists" may now refer to profiles ranging from (4) *hobbyist* [11, 30, 47] who develop a creative usage of T2I generation within online communities of practices; to (5) *visual artists* [26, 48, 56] (e.g., illustrators) who may have integrated T2I generators into their toolsets. This expansion marks a clear shift in which machine learning is no longer a computing paradigm being repurposed by a niche of media artists, but a technology embedded into consumer-facing services and publicly advertized as a rupture in creative work [8, 35]. HCI research has examined

[5] From the french anthropologist Lévi-Strauss' *bricolage* concept, which describes a mode of creation that improvises with pre-existing materials and tools, redeploying them for new purposes rather than designing systems from first principles. Browne [7] describe some of the early artists working with neural networks as *bricoleurs* as they do not design solutions from scratch but subvert existing github repository and datasets to craft their art.

[6] Ploin et al. [38] interviewed Robbie Barrat, Nicolas Boillot, Sofia Crespo, Jake Elwes, Lauren Lee McCarthy, Sarah Meyohas, Anna Ridler, Helena Sarin, and David Young. Caramiaux and Fdili Alaoui [9] interviewed Memo Akten, Jake Elwes, Mario Klingemann, Kyle McDonald, and Anna Ridler.

this diversification of practices from several angles. One angle focuses on redesigning and evaluating genAI systems as potential *creativity-support tools* [23]. In this context, HCI research on human–AI creative interaction often distinguishes AI as a tool versus a collaborator [35], or examines mixed-initiative systems [13, 28] in which creative agency is distributed between humans and algorithms. While these frameworks are important for understanding human-AI creative interaction, they map only partially onto ML-centered media art practices, where artists typically engage more materially with ML systems—intervening at the level of code, datasets, or training regimes—rather than interacting with AI as a user-facing interactive system. Another angle investigates artists' perceptions of genAI's for creation. Within that thread of research, studies have highlighted genAI's risk of privileging certain cultural perspectives while misrepresenting others, particularly those that are already marginalized [42, 52, 53]. Qadri et al. [41] found that artists develop hacks to circumvent the limitations of T2I generators and represent their local culture. This literature also points to a growing divide between AI development objectives for mainstream usages and artistic practices. Professional artists were found to experience plagiarism, economic, and reputational loss due to the mainstreaming of generative AI [25] and express concerns over genAI's impact on the workforce and profit distribution [29]. Shelby et al. [48] highlights how artists using T2I generation perceive developers' efforts to eliminate glitches and restrict functionalities of T2I generation tools. Yet these insights are difficult to compare with pre-2020 artistic practices using ML [9, 38, 51] outlined in the previous subsection 2.2, as they involve different artist populations.

2.4 Research gap

Existing work looking at ML-centered art practices [9, 38, 51] portrays a pre-2020 moment in which practice was experimental and situated within a certain socio-cultural context, what Shelby et al. [49] calls *creative ML assemblage*. Since then, this assemblage has likely been reconfigured by the shifting status of AI in society. Those changes are not mere technological developments but radical socio-technical shifts, marked by (1) the emergence of large, multimodal, general-purpose generative models; (2) the mainstreaming of AI as consumer products [30, 47]; (3) and intensified ethical, legal, and economic conflicts over training data, authorship, which particularly impact artistic professions [25, 46, 50]. Related work either captures snapshots of the early ML art scene or studies other artist populations in later generative AI contexts (e.g., illustrators, art students, or artists using T2I generators). What remains unknown is how early ML artists—those who established long-standing practices before 2020—have experienced and adapted to these transformations. Investigating these trajectories can reveal how tools, cultural meanings, values, and artistic practices co-evolve in the long run. This perspective offers valuable insight for HCI research, which has long studied how technology enables new forms of creative expression and increasingly attends to the social context in which creativity takes place.

3 Methods

We conducted semi-structured interviews with 30 artists who began working with ML before 2020. This corpus, analyzed through thematic analysis [5], offers a unique empirical lens into how artists perceive and adapt to the shifting socio-technical landscape of AI.

3.1 Recruitment and participants

We recruited artists who had created at least one artwork involving or addressing machine learning prior to 2020. While the early ML art scene can be situated historically and includes recognized figures, its practitioners are diverse in terms of artistic approach, visibility, formal training, and institutional affiliation, a diversity that is not fully captured in previous work [9, 38, 51]. 2020 is a legible cut-off that allows us to exclude newer practices related to T2I generation while including the broad spectrum of artists with long-standing practices centered on ML. We identified candidates by surveying six online galleries detailed in Appendix A, and listing artists and artworks that predate 2020. For each artist, we manually verified that their earliest findable artwork related to ML predates 2020, yielding 124 potential artists. We operationalized artists' visibility with two indicators reflecting *in-group visibility* (Twitter following relationships within the set of the 124 candidates) and *out-group visibility* (averaged social-media followers). These indicators, while simplistic, helped to develop clarity about the art scene and its main influences. We nevertheless expanded outreach to a wider range of profiles and contacted a total of 70 artists via email; 30 agreed to participate (including an artist duo). The final participants span varied practices, levels of visibility, and geographical locations, thereby complementing prior studies that tend to recruit participants via snowball sampling or at researchers' discretion [9, 38, 41]. Participants could choose to remain anonymous, but none chose this option. To help situate the artists' profiles, Table 4 in Appendix D provides an overview of the participants, including their artist names, links to their portfolios, primary artistic medium when working with ML and AI (e.g., visual or generative art, poetry, music, performance etc.), and an example of an artwork using machine learning created before 2020. These examples were identified through artists' portfolios. They may not reflect the artists' earliest work with ML nor be representative of the full breadth of their artistic practice. Finally, a challenge with thematic analysis is to capture collective patterns without flattening the richness of individual accounts. To this end, the results in Section 4 present quotations verbatim to illustrate claims, but do not link them to specific participants, as attribution adds little interpretive value and could create discomfort for the participants. We attribute quotes only when necessary to understand a claim and its context.

3.2 Semi-structured interviews

All interviews except one were conducted remotely. Participants were first briefed on our research goals and on the post-2020 socio-technical changes that frame our approach. The questions are listed in Appendix B and cover artistic practice, the surrounding ecosystem (community and reception), and ethical perspectives. Some questions were intentionally designed to prompt comparisons between early and current practices. Interviews lasted 47 minutes on average (STD = 16 minutes). The study has been approved by the ethics committee of Sorbonne Université and participants were compensated €50 for their participation.

3.3 Data collection

All interviews were conducted in English between September and December 2024, with only one interview in April 2025. Interviews were recorded, but only transcripts were used for the subsequent analysis. Speaker diarization and transcription were performed using WhisperX[7] [2] on a secure local machine equipped with an Nvidia A6000 GPU.

3.4 Data analysis

We analyzed the 29 interview transcripts (30 artists, with one artist duo interviewed together) using thematic analysis [5]. Because participants' views on our research questions are not known, our approach was primarily inductive and aimed to reflect participants' perspectives without imposing a pre-existing coding frame. Following Braun and Clarke [5]'s guidance to explicitly state the theoretical foundations of thematic analysis, in particular the relationship between language and experience, we mainly adopted an essentialist/realist stance, treating language as a direct reflection of participants' experiences [8]. All co-authors read subsets of the transcripts to build familiarity and independently developed an initial set of codes on a subset of the interviews. We distributed interviews across co-authors so that each transcript was coded at least once, and 17 out of 29 transcripts were double-coded by two co-authors independently. Taguette[9] [45] was used for coding and exporting data extracts. This initial coding generated a broad set of 1651 data extracts and 685 unique codes. We then discussed these codes in pairs, noting areas of convergence and divergence, and generated visual sketches of possible thematic groupings. These discussions were not aimed at producing statistical agreement through inter-coder reliability but at enriching the interpretive range of the analysis, consistent with reflexive thematic analysis [5]. These thematic sketches were gathered and consolidated by the first, second, and last authors, who refined and clarified the theme boundaries and names across three meetings before reaching an agreement. While the final themes are related to patterns identified in the initial coding round, the group discussions helped sharpen their relevance to our research question and improve their formulation. The final set of themes and subthemes, as formulated after the analysis and before refinements during the redaction of this article, is presented in Table 3 in Appendix C. In the final stage of the analysis, we occasionally used a locally hosted retrieval-augmented generation (RAG) system to verify the prevalence of artists' verbalization within our themes. We used the open-source model GEMMA3:27B served with Ollama[10] and accessed via Open WebUI[11], which includes a built-in RAG functionality. This tool was not used as an analytical tool, but to retrieve passages within the large amount of transcripts and data extracts produced.

[7]https://github.com/m-bain/whisperX
[8]As opposition to a constructionist approach that attempt to interpret verbalizations beyond what is being said, i.e., theorize the structural conditions that enable the individual accounts that are provided.
[9]https://www.taguette.org
[10]https://ollama.com/
[11]https://openwebui.com/

3.5 Positionality and methods' limitations

Our team combines backgrounds in HCI (5/6) and sociology (1/6), with research interests spanning creative AI practice and human-centered AI research, critical and inclusive design, research-through-practice, and the impact of AI in the cultural sector. Several authors have prior experience collaborating with artists or producing artistic work themselves. One co-author received an independent and personal research grant from Microsoft, which is not affiliated with this study, but whose funding was used to compensate participants. We acknowledge being part of the "creative ML assemblage" described by Shelby et al. [49], and this embeddedness was occasionally salient during interviews, e.g., realizing common acquaintances with participants. This proximity had two implications: it enabled interpretive fluency with participants, but it also risked reproducing the visibility and assumptions of the circuits we inhabit. While we do not believe researchers' values can be completely disconnected from the research process, we applied a consistent interview protocol to all participants, tried to represent the full spectrum of positions, and foreground participants' words when advancing claims in the results section. Our recruitment drew on online galleries curated by individuals and institutions. This helped identify practitioners who engaged with ML before 2020, but also shaped who was most visible to us. As a result, our recruitment may be skewed toward artists fluent in English and represented in institutional circuits.

4 Results

This section presents the results from our analysis, organized according to three subsections: (1) how artists experience the aesthetics and affordances of post-2020 ML systems in subsection 4.1, (2) how artists experience the reconfigured socio-ethical status of AI in subsection 4.2, and (3) how they envision reorienting or pursuing their artistic practice in the light of those transformations in subsection 4.3.

4.1 Experiencing the aesthetics and affordances of post-2020 ML systems

This subsection examines how artists perceive the new aesthetics and affordances embedded in post-2020 ML systems. We found that artists perceive a narrowing of aesthetic possibilities with post-2020 ML systems and identify two main causes of this perception: the strong text–image associations ingrained in multimodal models and the influence of AI-generated imagery circulating online. Regarding the affordances of post-2020 ML systems, we found that their platformization, increased size, and complexity hinder their malleability and hackability for artistic purposes, while also opening up new conceptual spaces and reducing technical overhead.

4.1.1 Aesthetic narrowing in post-2020 ML systems and its causes. Eleven participants (11/29)[12] perceive an aesthetic shift regarding post-2020 ML systems—generally described as the passage from the glitchy, abstract, and error-prone qualities of early models to the photorealistic and often predictable imagery of large generative

[12]We report prevalence based on the number of documents (e.g. transcripts), grouping Varvara & Mar who were interviewed together and mostly reported on their practice as a duo.

models. Six participants (6/29) reject what one artist calls *"fidelity for the sake of fidelity"*. For some, the imperfections of earlier models *"enriched the quality of the work"*, while another participant compared the shift from GANs to diffusion models with the move from vinyl to CDs: *"if you look at GANs, they now have an appeal because it's like CDs and vinyl, they had a certain softness, I don't know, it's almost nostalgic now, there is that layer missing of fidelity."* Only three artists (3/29) view these changes as opportunities. As one participant explained, *"there were lots of artifacts and glitchy stuff, and it was interesting to play with that. Once we got more photorealism around 2020, it was already more interesting, and we were able to do different new stuff. This was a pivotal moment—we could do many new things."* As an example, this participant pointed to advances in in/out-painting (e.g., with recent models like Flux), which now make it possible to create coherent AI-generated frescoes and collage.

Some participants linked the aesthetic narrowing to the introduction of natural language and prompting as a means of interaction with generative ML models, following the release of CLIP in 2021 [43]. While a few artists (3/29) recall moments of fascination with early text-guided generative models, a larger share (7/29) find prompting restrictive, especially for visual art. One of the reasons is the strong and fixed associations encoded in pre-trained multi-modal models. As one participant observes, *"the relationship between the label and the image is the primary place where things are interesting, and it's the thing that is absolutely fixed in these contemporary models. Although they're stochastic, you never really have something that's completely disconnected from your prompt"*. Another artist also questions the underlying quality of such associations, wondering whether *"the labeling of these images had been done in a deep, rich language"* during training. A few artists frame this aesthetic narrowing beyond systems' design, but stemming from a cultural factor: the prevalence of AI imagery now circulating online. To illustrate that point, one participant explains that *"when tools become accessible and more broadly used, aesthetics actually become constrained rather than expanded"*. Another argues that AI is now being associated with *"photorealistic slop that is not very interesting in my opinion"*, and advocates for the distinction between *generative AI* and *AI-enabled art* rather than conflating both practices into *AI art*.

While post-2020 models can generate high-resolution images and capture the variability of immense datasets, many artists experience them as narrowing aesthetic possibilities, undermining the unpredictability and ambiguity often exploited in ML-based art practices [9, 51]. Older neural network architectures (DeepDream, GANs, pix2pix, etc.) have previously been described to be tied to recognizable aesthetics too[13]. This idea occasionally surfaces in our interviews; as one participant put it, *"there was a point where the GANs were at such a popularity that the specific aesthetic realities of them to me became a cliche in artistic practice"*. However, we found that the aesthetics narrowing of post-2020 ML systems stems from new facets of their design and usage, namely (1) the strong text–image associations encoded in pre-trained multimodal models, and (2) the homogenizing influence of AI imagery now circulating online.

[13] *GANism* was ironically coined to describe the distinctive visual style associated with generative adversarial networks

4.1.2 Ambivalence of post-2020 ML systems: less malleable, more useful.

By contrast to the early days' experimentations, post-2020 models are subject to a platformization process[14] [34, 39], whereby access to ML models is increasingly mediated through corporate infrastructures that package models as consumer-oriented services. In practice, this means models are hosted on monetized third-party platforms, designed for scalability rather than modifiability. Several artists (7/29) agree that this infrastructural shift reduces their ability to act on ML models for artistic purposes. Illustrating that point, one participant argues that when *"having the model in my machine, I can misuse this model, I can hack this model, I can do anything."* Yet, the problem extends beyond *having access* as participants also report that models' size and complexity also hinder their malleability, for instance, the ability to train a model from scratch on curated data. As one artist explains, today's large-scale models are *"so expensive in labor, production, energy, that they are almost necessarily fixed products, not processes"*. Another adds that *"image models on the high-end are incredibly heavy [...] and then you look at the training costs for that, and there is a lack of malleability; it is not as plastic"*. Artists also report that the architecture of post-2020 ML models (e.g., diffusion models, transformers) is more complex, making them harder to understand and operate: *"I finds it a bit too difficult to train a transformer. I can't understand the architecture."*

These very limitations do not prevent artists from using large models. First, a few participants continue to pursue low-level interventions and approach large foundational models with a hacker mindset as a continuation of earlier practices. The artwork *Ghosts* by Terence Broad—one of our interviewees—illustrates this orientation. In this piece, the artist fine-tuned Stable Diffusion to suppress its ability to generate human bodies, only to reveal the reminiscent likeness of supermodels (e.g., Kate Moss, Cara Delevingne) still encoded in the model. Although Stable Diffusion is designed to be controlled through prompts, the artist emphasizes in our interview that prompting was almost irrelevant in this artwork: *"the prompt was literally just the name of the person."*. Second, a share of participants (12/29) describe how such systems are becoming part of their practice, albeit in different ways. For a few artists (4/29), they open new conceptual terrains, including questions of *"collective cultural knowledge"* or *"collective unconscious"*, and the *"limitations of the user interface"* of AI consumer products, i.e., what AI products allow or prevent people from doing. Third, for some artists (8/29), LLM-based conversational agents are seen as useful tools to reduce technical overhead in everyday practice. As opposed to the early years, when *"it was about like weeks to get the code running"*, artists now describe reduced labor when it comes to making art with ML. For instance, talking about LLMs, one artist perceives them as *"tools to help me build other things"*, and another one states that *"the overhead for setting up stuff is gone. I don't have to spend*

[14] Poell et al. [39] defines platforms as *"(re-)programmable digital infrastructures that facilitate and shape personalised interactions among end-users and complementors, organised through the systematic collection, algorithmic processing, monetisation, and circulation of data"* [34] and platformization is *"the penetration of the infrastructures, economic processes, and governmental frameworks of platforms in different economic sectors and spheres of life"*

weeks trying to get something to work on my specialized Linux machine. I don't have to do that anymore. So that's a time saver, and I guess I can spend my time now thinking about what would make this even interesting if anybody can do it by the click of a button." We found that this new form of technical support may also undermine artists' feeling of exploring uncharted territories, a feeling illustrated by two artists who describe the early art scene as *"the wild west"*. Indeed, two artists report nostalgia for the experimentation and learning-by-doing of their early artistic experiments with ML. For instance, one participant regrets the time when *"dollars went into learning [ed. setting up a GPU], not into doing [ed. cost of calling an API]"* while another participant explains that they *"almost have this like nostalgia for the early models these days [...] it was more fun when you had to code, you would see the terminal screen, you would have to know a bit more about how to execute the code down on the GitHub repo. I think there was even more romance in all of those, a more DIY approach."*

Together, these accounts reveal an ambivalence in how artists experience post-2020 ML systems. On one hand, models' platformization, increased size, and complexity make them less malleable and harder to understand for artists. On the other hand, large models open up conceptual spaces and prove increasingly useful in lowering the technical obstacles in everyday practice. While it has become easier for artists to learn and reproduce ML techniques—thanks to platforms, APIs, conversational agents, and Discord communities—it has also become harder to tinker and retrain large models. This ambivalence complicates prior depictions of ML-based art as a hands-on crafting and labor-intensive activity [9, 38, 51], it seems to render technical achievement less viable as a source of artistic novelty, and contributes to a sense of diminished reward, with some participants being nostalgic about the time when ML still was an "unknown planet" to explore [9].

4.2 Experiencing the shifting socio-ethical status of AI in artistic practice

This subsection reports on how artists experience the evolving role of AI at the ethical and social level. First, we present participants' diverging stances on where to locate moral responsibility with post-2020 ML systems, which nuance the previous account of artists' critical praxis [9]. Second, we found that participants perceive a polarization about AI among the audience and peers, which undermines the legibility of their practice. Lastly, we found that artists experience a weakening of their sense of community. What was already a sparse and loosely connected network of people before 2020 has, after 2022, become increasingly fragmented and noisy, making it harder to maintain meaningful exchanges.

4.2.1 Tainted by design? Artists' diverging stances on the ethics of post-2020 ML systems. Our analysis has focused on artists' ethics of working with post-2020 ML systems. These perspectives reveal that ML-enabled art practices are increasingly entangled with ethical tensions. We found no consensus among artists on where to locate moral responsibility with large AI models. For some, large models are unavoidably extractivist, and responsibility primarily lies with organizations that build models; for some, ethics only lie in how models are used, and for others, creative freedom prevails over ethical concerns.

Four artists (4/29) describe large generative AI models as unavoidably unethical. Some artists argue that the data volumes models require to learn are necessarily achieved through extractivist processes, i.e., the large-scale extraction of resources (data), often with minimal processing, and a high degree of environmental and social impacts. One artist particularly captures this position, stating that *"to create data at the scale that allows a really deep, deep network to learn cannot be done ethically. To create a dataset large enough, you have to be extractive because it's the only cost-effective way of doing it"*. The same artist also questions whether fine-tuning risks obscuring the exploitative origins of foundation models: *"I do wonder about fine-tuning becoming an illusion of actual training, to the point where people forget that there is a foundational model underneath that is inherently extractive."* Another participant precisely expresses doubts on using pre-trained models, explaining that *"I have also grown somewhat suspicious concerning the use of some models because I know that they have been training using improperly acquired data [...] so the model is tainted and if I use the models as a small part in my process, is my work tainted?"*. Adding to this critique, one participant considers authorship as a main moral anchor, arguing that the training process erases the cultural and authorial multiplicity of the internet: *"the primary ethical issue when working with these tools is, how the contributions to the output, from the people that produced the data that the model was trained on, have been erased. We've taken the internet, which is this incredibly poly-vocal speech act that has been happening over the course of the past 40 years, and we've turned it into this thing that is supposed to have a single author, but it does not."* For these artists, moral responsibility primarily lies with the organizations that collect data, train, deploy, and profit from large-scale generative models. In some cases, ethical dilemmas of working with tainted models may affect the decision of releasing artwork entirely, as for one artist, who *"probably sat on it for about six months"* before releasing an artwork built using a large generative model.

By contrast, another group of participant (3/29) locates responsibility on users rather than builders of ML models, arguing that artists should only carry moral responsibility for how they use ML tools (e.g., by avoiding copyright infringement), not for how they are built. For instance, one artist opposes stances that *"try to force their values onto the training data, onto the model, and I am very strictly against that. I believe that the responsibility is with the artist or the person who uses the tool. Maybe some people don't have the maturity or responsibility to properly operate that, but like trying to prevent certain data or certain ideas from getting into the models, I think it's the wrong approach."* Setting aside where responsibility lies, a third strand (3/29) values creative freedom over ethical concerns. Artists endorsing this view are drawn to the radical freedom to remix content, which they extend to AI training. This stance can be rooted in the rejection of copyright itself, described by a participant as an *"old-fashioned concept which is not valid anymore"*. In the same line, another artist concedes that the curiosity of mashing up at scale and discovering what unfolds from AI training would outweigh their ethical concerns: *"I like this idea of mashing up copyrighted stuff, sampling different people's music. There's like a part of me which kind of likes this freedom [...] which embraces the chaos of training AI. I remember one discussion where people were criticizing people who trained AI models. If I had the opportunity to download* *all the music in the world, I would give it a go as well. I would do the same. I would train an AI and see how it would go."*

4.2.2 *From curiosity to contention: shifting reception of AI erodes artists' legibility and opportunities.*

Artists describe a marked shift in how audiences respond to their work. Whereas the mid-2010s were characterized by curiosity and openness to the then-novel use of ML in art, participants now report a saturated and polarized climate. These tensions play out in two arenas: (1) in public contexts, where familiarity with consumer-facing AI products does not translate into understanding of long-standing ML-related art practices, and (2) within the art world, where peers and institutions may reject AI-related work over ethical controversies.

For a few participants (3/29), the broader public's familiarity with consumer AI tools creates entry points for conversation, noting that it *"definitely helped us explain what we do"* and *"people want to know more about AI"*. On the contrary, this new literacy may also fuel misinterpretation and suspicion regarding the artists' intentions and labor involved in their work. Six participants (6/29) report harms from this shift in audience literacy, mainly by reducing the legibility of their practices and forcing them to justify themselves. For instance, one participant explains that the rise of the audience's literacy *"puts a burden on me to explain the whole process, to make it clear how labor-intensive it has been"*. Similarly, another artist describes this pedagogical work as a response to threatened legitimacy among audiences: *"when I tell people what I do, like I'm a poet and I use computer programs to write poetry, people automatically assume I'm using generative models and just going to ChatGPT and typing in, "please write me a poem about the lovely winter snow" or whatever. Then I have to back up and explain, well, no, there's actually a tremendous history, let's talk about the work of Jackson Mac Low, Alison Knowles [...] it's provocative in the opposite way because people assume that I'm a lazy person using these technologies to try to take work away from actual artists and that makes it a lot more difficult to explain my work."*

Participants also report a pushback against ML-enabled art practices within the professional art world. Five participants (5/29) describe a shift from a generally open atmosphere of earlier years to one marked by skepticism or outright rejection. One participant recalls that *"until then, there was really no pushback, even from the artistic community. I've interacted with traditional artists and mixed media, visual arts, and so on. And in general, everybody was much more supportive in the early days, even if it's AI or machine learning generated. But once there was Midjourney, DALL·E, and some of these other models got that publicity, there was a lot of pushback. People would reject AI art in a way that didn't happen before."* For another artist, who has worked in editorial illustration design, this hostility translates into lost professional opportunities: *"Three or four years ago, no one even batted an eye at me using AI tools. [...] They thought it was interesting, but they didn't really have many questions beyond, oh, how did you make this? Now I get a lot more of like, what models are you using? Have you ethically sourced your data? I actually have certain people that won't work with me now because of the ethical side of the AI tools, which always existed before, but I think it's much more of a forefront of an issue now."*

This shift from curiosity to contention complicates the position of early artists using ML in two ways: audiences, now familiar with consumer AI products, often misinterpret or undervalue artistic practices related to this technology, while peers in the art world may distance themselves from AI altogether due to ethical controversies. These findings extend the work of Jiang et al. [25], who revealed economic and reputational losses among "artists for hire" [25], mainly illustrators, due to the mainstreaming of generative AI. Our results show that prejudices also affect artists with long-standing ML practices, eroding the legibility of their work and, at times, impacting professional opportunities.

4.2.3 *Diversification and fragmentation of communities and networks.*

In line with the *creative ML assemblage* framing outlined in section 2.1, we examined how artists situate themselves within one or multiple communities and networks. Rather than converging on a shared account, participants describe heterogeneous and shifting forms of community.

Before 2020, many artists (10/29) express an absence—or at best, the sparsity—of a cohesive community: *"there was no community, only a few scattered people exploring the same space"*. When communities are described, they appear as diverse and loosely connected rather than unified. Two recurrent groups emerge. First, some participants point to the new media art scene, closely related to the traditional art channels (museums, galleries, etc.), and where *"media art people were dipping their toes into deep learning, AI generation, mostly with image-based stuff"*. Second, others describe online technical communities, focused on learning, experimentation, and tool-building. As one artist explains, it was *"not only a technical community, but a community of explorers and developers, people who are into the technological movement itself."* These groups operate in parallel rather than in concert; as one artist noted *"there is a distance between the actual art world or fine art scene, and the creative technology or computer art world."* Twitter served as a shared space for both communities (12/29), and technical discussions also took place on Discord (9/29). Beyond these two central spheres, artists also reference national scenes (e.g., Finland, Israel, the Netherlands), other art movements (computational poetry, choreography), and, for some (12/29), the crypto and web3 community. The communities unrelated to ML and AI are sometimes described as more significant to their artistic practice than AI-related circles. For instance, one artist notes that *"the whole NFT movement was of much, much bigger importance to me as a person or an artist [...] I was flying all over the world to physically meet people in events on generative art and NFTs."*

After 2020, several participants (5/29) report a weakening sense of belonging as these communities crossed, diversified, and grew. Growth was often experienced as dilution; as one artist put it, *"we don't know each other [...] sometimes we feel sad because the community grew too much."* Two artists also describe a decline in the quality of the dialogue on Twitter. They attribute this shift to two events in 2022: (1) the release of Midjourney and Stable Diffusion, which brought polarization and disrespectful discussions on AI and art, and (2) Twitter's change in moderation, leading to *"not seeing the tweets from the same persons anymore."* Taken together, these accounts trace a trajectory of communities from early sparsity to post-2020 diversification and noise, where it is harder for artists to sustain meaningful exchange about their work.

4.3 Future orientations of ML-based artistic practice

Having examined how artists experience the transformations of AI—both as tools and from a socio-ethical standpoint—we now consider how they envision the future of their practice with ML. We identify three broad orientations: (1) reorienting practice away from the dominant logics of AI innovation; (2) pursuing practice by expanding AI toolsets and processes; or (3) pursuing practice by maintaining continuity in tools and processes. These insights only reflect what artists articulated during interviews; we did not observe whether or how these intentions were enacted. Furthermore, these orientations are not exhaustive or mutually exclusive, and the analytic effort to organize them may hinder some of their nuance.

4.3.1 Reorienting practice away from dominant logic of AI innovation.

From subversion to refusal. Some artists (3/29) report their intention to continue approaching ML critically, by *"trying to abuse them, to understand the limitations"*. These orientations mark a continuity with earlier accounts of the ML-based practice [9], as questioning norms by repurposing or subverting technology are fundamental aspects of media art practices (e.g., *ImageNet Roulette* from Kate Crawford and Trevor Paglen). What is new with the critical praxis is artists (2/29) who envision reorienting their practice away from ML entirely. For some of our participants, the harms caused by this technology block their creativity and render the medium ethically unusable. One participant explains that they have *"fallen out of love with machine learning [...] as a field that does more harm than good. I am trying to seek a positive or maybe semi-neutral, even though that's a very contested word, use of machine learning to feel inspired again. I feel actually quite blocked in terms of my own creativity with machine learning."* Similarly, another participant explains that their practice is *"almost a negative space"*, i.e., *"anything that stuff does, I don't want to do. And that doesn't feel good. Just negation doesn't feel good. [...] How can I get a handle on the techniques that I want to use from computation and data analysis without engaging with these technologies that I think are harmful? Is that possible? I don't know."*

Slowing the pace, deepening the concepts. Many artists (11/29) describe an accelerating pace of technological development, marked by frequent releases of new neural architectures and pre-trained models. As described by one participant, *"back then, it was a new model, a year later, maybe half a year later. The times got shorter and shorter between amazing breakthroughs. Now it's almost weekly, daily sometimes. Sometimes you have a day where three great new things coming out. You don't even know what to check out, which is, of course, difficult [...] back then it was a little bit like, in the whatever demo scene or something, where you wanted to be the first who did something cool"*. We found that most artists perceive this relentless technological development as incompatible with the slow and reflective process of making art. For instance, one participant regrets that *"with new models and new models, I feel things just stays in the surface"*, and another explains that *"most artists I know are not those kinds of people. We are the kind who wants to sit in a quiet corner and focus on developing an idea."* In the worst case, it may even foster anxiety, as for one participant who concedes that *"chasing and keeping myself up to date is just so overwhelming. There's the constant fear of missing out, but there's also the anxiety to resist this change."* In response to this frantic pace of innovation, we found that six participants (6/29) reject the incitations to engage with newer AI technology and intend to prioritize conceptual depth over the technical aspects of their practice. One participant explains that *"I can't keep track and have removed myself from the rat race of trying always to use the latest coolest thing [...] there are traps and hindrances there"*. Instead, this artist intends to explore concepts such as the physicality of trained models and envision installations that try to stage the warm and intimate aspects of this technology. Similar reflections are surfaced by other participants, who increasingly prefer *"process over outputs"* to avoid short-lived *"AI magic tricks"*, or plans to explore the speculative idea, e.g., try to *"imagine how artworks would change if computers can see them"*. These priorization of concepts are also accompanied by a renewed interest in embodiment and materiality. For instance, one artist shared a desire to *"rely more on my body to create things"*, while another focuses on hybrid work, where *"digitally native work"* has *"a physical counterpart"*. While most of these conceptual reorientations are deliberate, two artists also describe how the time saved on the technical issues (see section 4.1.2) naturally *"accelerated conceptual thinking as well"*. One artist recalled spending *"95% of my time just trying to solve technical issues or getting somewhere, and could not really focus on content or on meaning. [...] With the technology becoming better, faster, easier to handle, that balance, that ratio shifted."* Overall, this group of artists generally resist importing the logics of technological innovation into their practice. Instead, they lean on slower, more reflective, embodied, and conceptually grounded practices—qualities they describe as inevitable amid accelerating technological change.

4.3.2 Pursuing practice by expanding toolsets and processes.

Another group of participants (6/29) keeps experimenting with newer AI technologies and tends to perceive AI technological developments as an opportunity to push creative boundaries. Some of them report that being at the forefront of technological advancements might benefit their practice. For that reason, they tend to experiment with AI beyond the immediate needs of their artworks, and sustain frequent technology watch to check if earlier ideas might have become possible. For instance, one participant from a collective explains that their role *"is to be on the lookout for new methods, because we have a lot of ideas we cannot do at the moment [...] we try to see if, with the new tools that are available today, we can do those ideas that were not possible before."* Similarly, another participant believes *"it's pretty crucial, critical to be on the wave of all these developments, because if you fall down, fall out of the community, you are a bit isolated, and with the current tempo, current pace of changes, being out of the community just kicks you out of business."* Artists in this category emphasize the importance of expanding their toolset and stop working within a single generative model, but instead assemble toolset that combine multiple AI and non-AI techniques. For instance, one participant describes returning to a long-accumulated toolbox of ML algorithms: *"I went back to the roots and started using all the tools which I had accumulated since 2015— Style transfer, Pix2Pix, image-to-image conversion, autoencoders, GANs, then the diffusion networks."* Another participant explains combining AI with non-AI techniques to escape the homogenizing aesthetics associated with contemporary text-to-image systems: *"a lot of what I do now is using older models, or generating imagery that is not AI-generated and using AI tools to manage or manipulate it, so it still feels mostly like non-AI work."* To list a few technology participants report experimenting with, some participants are enthusiast about video generation as more vivid *"depiction of what is going on inside the mind"*, one participant researches about real-time AI generation for musical performance and out-of-domain music generation, another artist, *"after a short skepticism"*, was *"totally convinced"* by the node-based interface ComfyUI[15]. Two participants are interested in the autonomous behaviors of LLM agents, explaining that we are heading toward *"what I always wanted to have, machines that start doing their own research on the internet, look what other people are doing, or what's new."* Interestingly, while most artists frame AI's technological development as a process distinct from their own practice, an underrepresented belief (2/29) is that artists also have the agency to shape AI's technological development itself. For instance, one participant believes that *"artists have a lot more control or power over how they use these tools than they think they do. And I want to sort of guide these tools to where I want them to be."* On another front, one of the most famous artists among our interviewees is launching a new institution, framed as a museum of data and AI arts, a space for collaboration and education, and a commercial API for accessing generative models trained on nature-related data. While few artists can mobilize resources at this level, these two visions share the idea that artists also have the agency to inflect AI's technological development in more meaningful directions.

4.3.3 Pursuing practice by maintaining continuity in toolsets and processes. In contrast to the previous subsection, some artists (6/29) deliberately choose to pursue their practice with a narrow set of tools and processes they are familiar with. One artist, for instance, relies on a pipeline centered around photography and DeepDream—one of the earliest deep learning techniques used in visual art, explaining *"not [being] done tapping the potential of my tool"* and is *"still finding new ways to extend my vision with the tool that I have."* Other artist emphasizes the stability of their workflow, noting that they *"can go on without taking in anything new at the moment."* One artist particularly exemplifies this orientation through their remarkably consistent practice on the algorithmic and hardware level, using self-organizing map algorithms and a GPU *"with only three gigabytes of RAM"* for years. This participant perceives artistic opportunities in using old algorithms while computing power is growing: *"it's a very old machine, but I can still do a lot of interesting things in aesthetic territory because the methods I use are old [...] being in the 90s technologically [ed. referring to the algorithmic technique] and being in the present hardware-wise, or let's say 10 years ago... it feels like a really interesting opportunity."*

5 Discussion

This section discusses our results in the light of prior work and HCI conversations on design and creativity. Our results on the impact of a decade of AI development on long-standing artistic practices using ML can be summarized as follows. Aesthetically, many perceive a narrowing of possibilities stemming from strong text–image associations ingrained in pre-trained multimodal models and the cultural homogenization produced by the circulation of AI imagery online. In terms of affordances, models' platformization, scale, and architectural complexity make them harder to tinker with and train on custom datasets. At the same time, they open new conceptual spaces and lower technical overhead in everyday practice. On an ethical level, we found that artists diverge on where moral responsibility lies. For some artists, it rests with organizations that build models using extractive data practices; for others, it lies with end-users; and for a few, creative freedom takes precedence over ethical concerns. On a social level, the audience's familiarity with genAI was found to erode the legibility of ML-related artistic practices. Within art spaces, artists may experience rejection and lost opportunities due to the ethical concerns now associated with AI. Artists also report that their sparse networks have become increasingly fragmented and noisy, making community exchanges less meaningful and harder to sustain. Lastly, artists articulate three orientations for their future practice: (1) reorienting away from dominant AI logics of innovation, through refusal or through a refocus on concepts rather than technicalities, (2) pursuing practice by expanding AI toolsets and processes, and (3) maintaining continuity with established tools and workflows.

5.1 The reconfiguration of the *bricolage* ethos in ML-based art practices

Early accounts of ML-based artistic practice often described artists as *bricoleur·se·s* (see section 2.2), drawing on Lévi-Strauss's notion of *bricolage*, defined as a mode of creation that improvises with preexisting materials and tools, redeploying them for new purposes rather than designing systems from first principles. The term has been taken up by both scholars [7] and artists themselves—for instance, Helena Sarin also works under the pseudonym *Neural Bricolage*. Browne [7] describe some of the early artists working with neural networks as *bricoleurs* as they do not design solutions from scratch but subvert existing materials and processes (data, ML algorithms, github repositories, computational notebooks) to craft their art. Part of this approach involves treating steps of the ML pipeline as design materials [9, 38], where the concept of *crafting* plays a central role in the practice of artists using ML [9]. This ethos also resonates with one participant's offhand description of the early ML art scene as a *"whatever demo scene,"* where the goal was also *"to be the first who did something cool"* with ML—a technology largely confined to scientific domains at the time[16].

Our findings suggest that the *bricolage* ethos is becoming difficult and even undesirable to sustain. Technically, the platformization, greater size, and complexity of ML models have made it harder for artists to engage in hands-on experimentation (see Section 4.1.2). At the same time, participants report that conversational agents have lowered the technical burdens of the practice, making technical achievement less distinctive as a source of artistic novelty. On the ethical level, several artists are in grip with new dilemmas—particularly when using large models that rely on extractive data practices. Even when large models are fine-tuned or minimally

[15] https://www.comfy.org/

[16] Note that this ethos of *bricolage* was also present—though not explicitly named—in early deep learning research. For example, the breakthroughs in 2012 were often described as the result of hacker-like ingenuity and hands-on experimentation [10].

used, some artists wonder whether their work might be *tainted*, and report hesitation about releasing such work publicly. These situated ethical deliberations seem to become central to the ML-centered artistic practice, as evidenced by certain artists who withdraw from using machine learning entirely (see Section 4.3.1).

5.2 Artists' practices with AI and epistemic assumptions about creativity

Articles in the press [3] and in academia [16, 31, 55] have often asked whether AI might redefine creativity, sometimes speculating about AI being autonomously creative. These debates tend to abstract away from concrete practices and treat creativity as a uniform concept, despite it being a contested term with multiple definitions across disciplines. Hsueh et al. [21] describes four epistemic assumptions about creativity in HCI research: (1) *problem-solving*, (2) *cognitive emergence*, (3) *embodied action*, and (4) *tool-mediated expert activity*. These assumptions shape researchers' analytical stances, methodological choices, and design practices. Building on this framework, we argue that artists' positions also surface similar epistemic assumptions, especially in how they envision their practice going forward. Below, we present a mapping from practice orientations to epistemic assumptions about creativity. This mapping is illustrative, as artists often straddle positions, and their practice exceeds what any single assumption can capture.

First, artists depicted in section 4.3.1 seek slower and more conceptually grounded practices. They describe a mismatch between their creative process, which requires time for idea maturation, and the accelerating cadence of AI innovation. These orientations align with a *cognitive emergence* view of creativity, which frames creative work as a cognitive activity unfolding in phases [19, 54]. Deliberately suspending engagement with technology to let ideas develop enacts a temporal separation between ideation and implementation, foregrounding creativity as a phased process that unfolds across cognitive and embodied modes of engagement. Second, artists described in section 4.3.2 continue to experiment with newer AI technologies and emphasize the importance of expanding their toolset with novel AI techniques. Their accounts resonate most strongly with the *tool-mediated expert activity* view, which assumes that creative work is mainly shaped by artists' evolving relationships with their tools. From this perspective, tools are mediating artifacts that extend the artist's agency in the world. Therefore, developing new relationships with AI techniques can foster artistic novelty. Third, artists described in section 4.3.3 aim to sustain their practice with a narrow set of ML techniques. This orientation resonates with the *embodied action* view, which highlights the situated, embodied, and tacit dimensions of creative work. Like musicians playing an instrument, these artists know more than they can tell [40] and deliberately limit their palette to hone embodied know-how and cultivate virtuosity with the medium.

Overall, we argue that the practices of early artists working with ML do not redefine creativity. Instead, artists—like researchers—carry epistemic assumptions about what creativity is, and these assumptions are surfaced in their practice and relationships with AI.

6 Research implications for HCI

While *crafting* is a central concept in the way artists work with ML algorithms [7, 9, 38], our results suggest that *crafting*, and the *bricolage* ethos are becoming harder to sustain with contemporary generative ML models (see section 5.1) because of models' increasing platformization, scale, and complexity. Grounded in these particular findings, this section outlines two research and design implications for HCI to reopen forms of crafts that many artists now find foreclosed: (1) support low-level interventions *within* AI models, and (2) support workflow creation *across* AI and non-AI pipelines.

I1 Supporting low-level interventions *within* AI models

Crafting with large generative models calls for interventions *within* these models. Earlier ML architectures (GANs) offered relatively accessible end-to-end pipelines for training and intervening within models. The scale and complexity of post-2020 ML systems make model crafting and bricolage far more challenging. Moreover, current trends in HCI and creativity-support tools (CST) lean toward designing interactions that *sit atop* models [23], treating them as fixed services wrapped in controllable interfaces, rather than supporting intervention within models and treating them as malleable design materials. In parallel, deep learning techniques are emerging to customize models without full retraining. For example, techniques like LoRA [22] can fine-tune diffusion models by inserting small trainable modules into the model architecture. Within the creative computing field, Terence Broad has proposed a "hacker's guide" [6] to using generative ML as an artistic material. He outlined concrete interventions at various stages of the pipeline, including subverting inputs, corrupting weights, upending training, and manipulating the computational graph. Together, these developments highlight a growing repertoire of low-level interventions that could help re-establish ML models as a workable artistic material, even as they continue to scale. Further research is needed, however, to move beyond one-off techniques to more generalized design frameworks. Therefore, we encourage future research to:

- Articulate and formalize this emerging repertoire of interventions into a coherent design space for interaction, helping designers identify which techniques are most suitable given specific contexts and needs;
- Evaluate the extent to which low-level interventions can truly support artists in aligning ML systems with their artistic intentions and aesthetics;

I2 Designing for workflow composition *across* AI and non-AI algorithms

Artists in our study assemble toolsets that combine multiple AI and non-AI techniques accumulated over the years (see section 4.3.2). *Crafting* thus occurs not only *within* but also *across* models. Yet, HCI and CST research more commonly focus on single-model interfaces for isolated creative tasks (e.g., creative writing, video editing, ideation) [23], overlooking how artists route and combine computational methods. Supporting such composition requires rethinking interactions for interoperability and committing to specific design decisions about data formats, integration layers, and how AI and non-AI tools exchange information. Software tools, such as TouchDesigner and ComfyUI, can serve as formative examples integrating AI and non-AI algorithms in their node-based visual programming software. TouchDesigner, which predates the generative-AI era, relies on community-developed plug-ins that treat ML models as external modules. By contrast, ComfyUI, designed around post-2022 generative ML systems, exposes a wider range of ML primitives—such as prompts, text embeddings, latent images, conditioning vectors, models, and pixel images—through typed and color-coded data flows. This design enables workflows that operate across multiple representational levels. Further research is, however, needed to:

- Understand the strengths and limitations of existing AI-integrated creative environments among communities of practice;
- Formalize interoperability between AI and non-AI tools through reification of AI-related concepts across multiple representational levels;

On the limits of translating ethnographic insights into design implications

While it is common in HCI to translate ethnographic insights into implications for design, prior work [21, 24] reminds us that *translation* inevitably entails losing some of the richness of participants' experiences and abstracting away the idiosyncrasies of artistic work. In our case, interaction design alone can only partially address the legitimacy, community, and ethical tensions highlighted in this work. We therefore offer these implications as openings for HCI inquiry rather than as prescriptive design guidelines, and acknowledge both their limits and the fact that they necessarily reflect our analytical standpoint.

7 Conclusion

The past decade has seen major socio-technical shifts in AI, from the emergence of large generative models to their normalization as consumer technologies, alongside heightened ethical and economic tensions impacting artistic professions. Based on interviews with 30 artists who engaged with machine learning prior to 2020, this research reveals how these shifts have been perceived and have reshaped their practices. We found that artists experience large models as narrowing aesthetic possibilities due to their entrenched text–image associations and the circulation of homogenized AI imagery online. Platformization and technical complexity reduce artists' abilities to intervene within models, even as they open new conceptual spaces and lower the technical barriers of everyday practice. Artists diverge in their stances on where to locate moral responsibility with large ML models. On the social level, the mainstreaming of AI erodes the legibility of ML-based practices, exposing media artists to new suspicions and rejections from audiences and peers alike and further weakening a sense of community that was already sparse and loosely connected. In light of those changes, we found that artists articulate three orientations for their future practice: (1) reorienting away from dominant logics of AI innovation, through refusal or a refocus on concepts rather than technicalities, (2) pursuing practice by expanding AI toolsets and processes, and (3) maintaining continuity with established tools and workflows. These insights advance HCI in four ways. First, they show how post-2020 shifts reconfigure the ethos of practice across aesthetics, labor, and ethics. Second, we nuance prior accounts of ML artists' ethical praxis [9], emphasizing their divergence and situated dilemmas. Third, we extend accounts of genAI's impact on artistic professions [25], showing that harms also affect the legitimacy of media artists with long-standing ML-based practices. We discuss how artists' future orientations surface epistemic assumptions about creativity and propose two implications for the HCI community: (1) supporting low-level interventions within AI models and (2) designing for workflow composition across AI and non-AI algorithms. By tracing how tools, values, culture, and practices co-evolve, this research offers the HCI community a holistic lens on artistic practice with machine learning—one that attends not only to what technologies enable, but also to what they constrain and transform.

Acknowledgments

We thank the artists who participated in this study for their time, trust, and willingness to share their experiences. Participant compensation was funded by Microsoft Research's AI & Society program, through a grant held by Baptiste Caramiaux. Téo Sanchez and Mariya Dzhimova were supported by the AI in Culture and Arts (AICA) project, funded by the Bavarian Ministry of Science, Research, and the Arts (F.2-M7426.10..2.1/4/19), within the BIDT Digitalization College initiative. Sarah Fdili Alaoui was supported by the Living Archive project (ANR-20-CE33-0006) until December 2024.

References

[1] Sofian Audry. 2021. *Art in the Age of Machine Learning*. The MIT Press. https://doi.org/10.7551/mitpress/12832.001.0001
[2] Max Bain, Jaesung Huh, Tengda Han, and Andrew Zisserman. 2023. WhisperX: Time-Accurate Speech Transcription of Long-Form Audio. https://doi.org/10.48550/arXiv.2303.00747 arXiv:2303.00747 [cs].
[3] Claudia Baxter. 2024. AI art: The end of creativity or the start of a new movement? https://www.bbc.com/future/article/20241018-ai-art-the-end-of-creativity-or-a-new-movement
[4] Margaret A. Boden. 1998. Creativity and artificial intelligence. *Artificial Intelligence* 103, 1 (Aug. 1998), 347–356. https://doi.org/10.1016/S0004-3702(98)00055-1
[5] Virginia Braun and Victoria Clarke. 2006. Using thematic analysis in psychology. *Qualitative Research in Psychology* 3, 2 (2006), 77–101. https://doi.org/10.1191/1478088706qp063oa
[6] Terence Broad, Frederic Fol Leymarie, and Mick Grierson. 2021. Network Bending: Expressive Manipulation of Deep Generative Models. In *Artificial Intelligence in Music, Sound, Art and Design: 10th International Conference, EvoMUSART 2021, Held as Part of EvoStar 2021, Virtual Event, April 7–9, 2021, Proceedings*. Springer-Verlag, Berlin, Heidelberg, 20–36. https://doi.org/10.1007/978-3-030-72914-1_2
[7] Kieran Browne. 2022. Who (or What) Is an AI Artist? *Leonardo* 55, 2 (04 2022), 130–134. https://doi.org/10.1162/leon_a_02092
[8] Baptiste Caramiaux, Kate Crawford, Q. Vera Liao, Gonzalo Ramos, and Jenny Williams. 2025. Generative AI and Creative Work: Narratives, Values, and Impacts. https://doi.org/10.48550/arXiv.2502.03940 arXiv:2502.03940 [cs].
[9] Baptiste Caramiaux and Sarah Fdili Alaoui. 2022. "Explorers of Unknown Planets": Practices and Politics of Artificial Intelligence in Visual Arts. *Proc. ACM Hum.-Comput. Interact.* 6, CSCW2, Article 477 (Nov. 2022), 24 pages. https://doi.org/10.1145/3555578
[10] Dominique Cardon, Jean-Philippe Cointet, Antoine Mazières, and Liz Carey-Libbrecht. 2018. Neurons spike back. The invention of inductive machines and the artificial intelligence controversy. *Réseaux* No 211, 5 (2018), 173–220. https://doi.org/10.3917/res.211.0173
[11] Minsuk Chang, Stefania Druga, Alexander J. Fiannaca, Pedro Vergani, Chinmay Kulkarni, Carrie J Cai, and Michael Terry. 2023. The Prompt Artists. In *Proceedings of the 15th Conference on Creativity and Cognition* (Virtual Event, USA) *(C&C '23)*. Association for Computing Machinery, New York, NY, USA, 75–87. https://doi.org/10.1145/3591196.3593515
[12] Simon Colton and Geraint A. Wiggins. 2012. Computational creativity: the final frontier?. In *Proceedings of the 20th European Conference on Artificial Intelligence* (Montpellier, France) *(ECAI'12)*. IOS Press, NLD, 21–26.

[13] Sebastian Deterding, Jonathan Hook, Rebecca Fiebrink, Marco Gillies, Jeremy Gow, Memo Akten, Gillian Smith, Antonios Liapis, and Kate Compton. 2017. Mixed-Initiative Creative Interfaces. In *Proceedings of the 2017 CHI Conference Extended Abstracts on Human Factors in Computing Systems*. ACM, Denver Colorado USA, 628–635. https://doi.org/10.1145/3027063.3027072

[14] Luba Elliott. 2019. The New wave of AI art: Reflections on artistic and machine creativity. *INSAM Journal of Contemporary Music, Art and Technology* 2 (2019), 9–11. https://www.ceeol.com/search/article-detail?id=780687 Publisher: INSAM Institut za savremenu umjetničku muziku.

[15] Guattari Felix and D. Guattari. 1987. A thousand plateaus: Capitalism and schizophrenia. *Trans. by Massumi, B.)., University of Minnesota, Minneapolis* (1987). http://media3.cagd.co.uk/479/811821_41852a.pdf

[16] Dessislava Fessenko. 2022. Can Artificial Intelligence (Re) Define Creativity? (2022). https://philpapers.org/rec/FESCAI

[17] Tarleton Gillespie. 2024. Generative AI and the politics of visibility. *Big Data & Society* 11, 2 (June 2024), 20539517241252131. https://doi.org/10.1177/20539517241252131

[18] Dejan Grba. 2022. Deep Else: A Critical Framework for AI Art. *Digital* 2, 1 (2022), 1–32. https://doi.org/10.3390/digital2010001

[19] J. P. Guilford. 1950. Creativity. *American Psychologist* 5, 9 (1950), 444–454. https://doi.org/10.1037/h0063487

[20] Thomas Hodgson. 2020. AI: More Than Human, Barbican, 16 May – 26 August: 16 May – 26 August. *Sound Studies* 6, 1 (Jan. 2020), 99–103. https://doi.org/10.1080/20551940.2019.1681173

[21] Stacy Hsueh, Marianela Ciolfi Felice, Sarah Fdili Alaoui, and Wendy E. Mackay. 2024. What Counts as 'Creative' Work? Articulating Four Epistemic Positions in Creativity-Oriented HCI Research. In *Proceedings of the CHI Conference on Human Factors in Computing Systems*. ACM, Honolulu HI USA, 1–15. https://doi.org/10.1145/3613904.3642854

[22] Edward J. Hu, Yelong Shen, Phillip Wallis, Zeyuan Allen-Zhu, Yuanzhi Li, Shean Wang, Lu Wang, and Weizhu Chen. 2022. Lora: Low-rank adaptation of large language models. *ICLR* 1, 2 (2022), 3. https://arxiv.org/pdf/2106.09685v1/1000

[23] Xi Hu, Yiwen Xing, Xudong Cai, Yihang Zhao, Michael Cook, Rita Borgo, and Timothy Neate. 2025. Designing Interactions with Generative AI for Art and Creativity: A Systematic Review and Taxonomy. In *Proceedings of the 2025 ACM Designing Interactive Systems Conference (DIS '25)*. Association for Computing Machinery, New York, NY, USA, 1126–1155. https://doi.org/10.1145/3715336.3735843

[24] Lilly Irani, Janet Vertesi, Paul Dourish, Kavita Philip, and Rebecca E. Grinter. 2010. Postcolonial computing: a lens on design and development. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*. ACM, Atlanta Georgia USA, 1311–1320. https://doi.org/10.1145/1753326.1753522

[25] Harry H. Jiang, Lauren Brown, Jessica Cheng, Mehtab Khan, Abhishek Gupta, Deja Workman, Alex Hanna, Johnathan Flowers, and Timnit Gebru. 2023. AI Art and its Impact on Artists. In *Proceedings of the 2023 AAAI/ACM Conference on AI, Ethics, and Society* (Montréal, QC, Canada) *(AIES '23)*. Association for Computing Machinery, New York, NY, USA, 363–374. https://doi.org/10.1145/3600211.3604681

[26] Anna-Kaisa Kaila, Andre Holzapfel, and Petra Jääskeläinen. 2024. Gardening Frictions in Creative AI : Emerging Art Practices and Their Design Implications. Proceedings of the 15th International Conference on Computational Creativity. https://computationalcreativity.net/iccc24/papers/ICCC24_paper_35.pdf QC 20240619.

[27] Bruno Latour. 2005. *Reassembling the Social: An Introduction to Actor-Network-Theory*. Oxford University Press. https://doi.org/10.1093/oso/9780199256044.001.0001

[28] Zhiyu Lin, Upol Ehsan, Rohan Agarwal, Samihan Dani, Vidushi Vashishth, and Mark Riedl. 2023. Beyond Prompts: Exploring the Design Space of Mixed-Initiative Co-Creativity Systems. https://doi.org/10.48550/arXiv.2305.07465 arXiv:2305.07465 [cs].

[29] Juniper Lovato, Julia Witte Zimmerman, Isabelle Smith, Peter Dodds, and Jennifer L. Karson. 2025. *Foregrounding Artist Opinions: A Survey Study on Transparency, Ownership, and Fairness in AI Generative Art*. AAAI Press, 905–916.

[30] Jon McCormack, Maria Teresa Llano, Stephen James Krol, and Nina Rajcic. 2024. No Longer Trending on Artstation: Prompt Analysis of Generative AI Art. In *Artificial Intelligence in Music, Sound, Art and Design: 13th International Conference, EvoMUSART 2024, Held as Part of EvoStar 2024, Aberystwyth, UK, April 3–5, 2024, Proceedings* (Aberystwyth, United Kingdom). Springer-Verlag, Berlin, Heidelberg, 279–295. https://doi.org/10.1007/978-3-031-56992-0_18

[31] Charu Mehrotra. 2024. AI: Redefining Creativity and Revolutionizing the Art of Writing. *International Journal of Innovations in Science, Engineering And Management* 3, 2 (Dec. 2024), 129–133. https://doi.org/10.69968/ijisem.2024v3si2129-133

[32] Nusrat Jahan Mim, Dipannita Nandi, Sadaf Sumyia Khan, Arundhuti Dey, and Syed Ishtiaque Ahmed. 2024. In-Between Visuals and Visible: The Impacts of Text-to-Image Generative AI Tools on Digital Image-making Practices in the Global South. In *Proceedings of the CHI Conference on Human Factors in Computing Systems*. ACM, Honolulu HI USA, 1–18. https://doi.org/10.1145/3613904.3641951

[33] Vera Molnar. 1975. Toward Aesthetic Guidelines for Paintings with the Aid of a Computer. *Leonardo* 8, 3 (1975), 185–189. http://www.jstor.org/stable/1573236

[34] David Nieborg, Thomas Poell, and José {van Dijck}. 2022. *Platforms and Platformization*. SAGE, 29–49.

[35] Bin Ning, Fang Liu, and Zhixiong Liu. 2023. Creativity Support in AI Co-creative Tools: Current Research, Challenges and Opportunities. In *2023 26th International Conference on Computer Supported Cooperative Work in Design (CSCWD)*. 5–10. https://doi.org/10.1109/CSCWD57460.2023.10152832

[36] Francois Pachet. 2003. The continuator: Musical interaction with style. *Journal of New Music Research* 32, 3 (2003), 333–341.

[37] Christiane Paul. 2023. *Digital art*. Thames & Hudson.

[38] Annalise Ploin, Rebecca Eynon, Isis Hjorth, and Michael A. Osborne. 2022. *AI and the Arts: how machine learning is changing artistic work. Report from the Creative Algorithmic Intelligence Research Project.* Technical Report. Technical Report. Oxford Internet Institute, University of Oxford, UK.

[39] Thomas Poell, David Nieborg, and José Van Dijck. 2019. Platformisation. *Internet policy review* 8, 4 (2019), 1–13. https://www.econstor.eu/handle/10419/214087 Publisher: Berlin: Alexander von Humboldt Institute for Internet and Society.

[40] Michael Polanyi. 2009. The tacit dimension. In *Knowledge in organisations*. Routledge, 135–146. https://api.taylorfrancis.com/content/chapters/edit/download?identifierName=doi&identifierValue=10.4324/9780080509822-7&type=chapterpdf

[41] Rida Qadri, Piotr Mirowski, and Remi Denton. 2025. AI and Non-Western Art Worlds: Reimagining Critical AI Futures through Artistic Inquiry and Situated Dialogue. In *Proceedings of the 2025 CHI Conference on Human Factors in Computing Systems (CHI '25)*. Association for Computing Machinery, New York, NY, USA, 1–17. https://doi.org/10.1145/3706598.3714049

[42] Rida Qadri, Renee Shelby, Cynthia L. Bennett, and Emily Denton. 2023. AI's Regimes of Representation: A Community-centered Study of Text-to-Image Models in South Asia. In *Proceedings of the 2023 ACM Conference on Fairness, Accountability, and Transparency (FAccT '23)*. Association for Computing Machinery, New York, NY, USA, 506–517. https://doi.org/10.1145/3593013.3594016

[43] Alec Radford, Jong Wook Kim, Chris Hallacy, Aditya Ramesh, Gabriel Goh, Sandhini Agarwal, Girish Sastry, Amanda Askell, Pamela Mishkin, Jack Clark, et al. 2021. Learning transferable visual models from natural language supervision. In *International conference on machine learning*. PMLR, 8748–8763. http://proceedings.mlr.press/v139/radford21a

[44] Nina Rajcic, Maria Teresa Llano Rodriguez, and Jon McCormack. 2024. Towards a Diffractive Analysis of Prompt-Based Generative AI. In *Proceedings of the 2024 CHI Conference on Human Factors in Computing Systems* (Honolulu, HI, USA) *(CHI '24)*. Association for Computing Machinery, New York, NY, USA, Article 844, 15 pages. https://doi.org/10.1145/3613904.3641971

[45] Rémi Rampin and Vicky Rampin. 2021. Taguette: open-source qualitative data analysis. *Journal of Open Source Software* 6, 68 (2021), 3522. https://joss.theoj.org/papers/10.21105/joss.03522.pdf

[46] Pamela Samuelson. 2023. Generative AI meets copyright. *Science* 381, 6654 (July 2023), 158–161. https://doi.org/10.1126/science.adi0656

[47] Téo Sanchez. 2023. Examining the Text-to-Image Community of Practice: Why and How do People Prompt Generative AIs?. In *Proceedings of the 15th Conference on Creativity and Cognition* (Virtual Event, USA) *(C&C '23)*. Association for Computing Machinery, New York, NY, USA, 43–61. https://doi.org/10.1145/3591196.3593051

[48] Renee Shelby, Shalaleh Rismani, and Negar Rostamzadeh. 2024. Generative AI in Creative Practice: ML-Artist Folk Theories of T2I Use, Harm, and Harm-Reduction. In *Proceedings of the CHI Conference on Human Factors in Computing Systems*. ACM, Honolulu HI USA, 1–17. https://doi.org/10.1145/3613904.3642461

[49] Renee Shelby, Ramya Srinivasan, Katharina Burgdorf, Jennifer C. Lena, and Negar Rostamzadeh. 2024. Creative ML Assemblages: The Interactive Politics of People, Processes, and Products. *Proc. ACM Hum.-Comput. Interact.* 8, CSCW1, Article 38 (April 2024), 30 pages. https://doi.org/10.1145/3637315

[50] Jingyu Shi, Rahul Jain, Runlin Duan, and Karthik Ramani. 2023. Understanding Generative AI in Art: An Interview Study with Artists on G-AI from an HCI Perspective. https://doi.org/10.48550/arXiv.2310.13149 arXiv:2310.13149 [cs].

[51] Christian Sivertsen, Guido Salimbeni, Anders Sundnes Løvlie, Steven David Benford, and Jichen Zhu. 2024. Machine Learning Processes As Sources of Ambiguity: Insights from AI Art. In *Proceedings of the CHI Conference on Human Factors in Computing Systems*. ACM, Honolulu HI USA, 1–14. https://doi.org/10.1145/3613904.3642855

[52] Ramya Srinivasan. 2024. To See or Not to See: Understanding the Tensions of Algorithmic Curation for Visual Arts. In *The 2024 ACM Conference on Fairness Accountability and Transparency*. ACM, Rio de Janeiro Brazil, 444–455. https://doi.org/10.1145/3630106.3658917

[53] Jordan Taylor, Joel Mire, Franchesca Spektor, Alicia DeVrio, Maarten Sap, Haiyi Zhu, and Sarah E Fox. 2025. Un-Straightening Generative AI: How Queer Artists Surface and Challenge Model Normativity. In *Proceedings of the 2025 ACM Conference on Fairness, Accountability, and Transparency (FAccT '25)*. Association for Computing Machinery, New York, NY, USA, 951–963. https://doi.org/10.1145/3715275.3732061

[54] Graham Wallas. 1926. The art of thought. *Jonathan Cape* (1926).
[55] Roosa Wingström, Johanna Hautala, and Riina Lundman. 2024. Redefining Creativity in the Era of AI? Perspectives of Computer Scientists and New Media Artists. *Creativity Research Journal* 36, 2 (2024), 177–193. https://doi.org/10.1080/10400419.2022.2107850
[56] Shuning Zhang and Shixuan Li. 2024. "Confrontation or Acceptance": Understanding Novice Visual Artists' Perception towards AI-assisted Art Creation. https://doi.org/10.48550/arXiv.2410.14925 arXiv:2410.14925 [cs].

A Online repositories used for participants screening

Table 1 shows online repositories, galleries, and collections consulted to identify artists who created ML-based artwork before 2020.

B Questions from semi-structured interview

Table 2 shows the structure and questions employed in semi-structured interviews with participants.

C Themes and subthemes

Table 3 shows the themes and subthemes formulated after the analysis.

Name	URL	Creator / Host
AIArtists.org	https://aiartists.org/ai-artist-directory	Marnie Benney (curator) and Pete Kistler (entrepreneur and product manager)
AI Art Gallery	https://www.aiartonline.com/	Luba Elliott (curator)
ML Art Directory	https://mlart.co/	Emil Walner (entrepreneur)
Under the GAN collection	https://deca.art/UnderTheGAN/underthegan	JediWolf (collector)
Google Artists + Machine Intelligence	https://ami.withgoogle.com/artists	Google Research / Google Arts & Culture
NVIDIA AI Art Gallery	https://www.nvidia.com/en-us/research/ai-art-gallery/	NVIDIA

Table 1: Online repositories, galleries, and collections consulted to identify artists who created ML-based artwork prior to 2020.

General topic	Guiding questions
Primer	Introduction of researchers Brief description of socio-technical ML/AI evolution Introduction of the research goal: understand how early artists navigate this evolution
Artistic Practice	What first drove you to incorporate machine learning in your artistic practice? How has the evolution of ML technology influenced your artistic practice? How do you envision the role of ML in your future work?
Ecosystem and Culture	In the early days of your work with ML, did you feel part of a community of artists or practitioners working with the same technology? How has this community, or your connection to it, evolved over time? Have you experienced changes in the market for your work with ML? How has the popularity of generative AI (e.g., text-to-image tools, conversational agents) affected the reception of your work?
Ethical Perspectives	ML in art faces criticism (e.g., copyrighted work used for training). What is your perspective on the ethical debate surrounding ML in the arts? Were there ethical concerns when you began using ML before 2020? How have these evolved?
Speculation	(If enough time) How do you envision the future of AI and ML in the arts?

Table 2: Interview guide used in semi-structured conversations with participants. Questions were grouped thematically but adapted conversationally.

Themes	Subthemes
Experiencing transformations of AI	Tooling: Post-2020 AI tools embed novel affordances, aesthetics, and politics Audience and culture: Struggles to cope with a saturated and polarized landscape Community and networks: Diversification and fragmentation of communities
Reorienting or maintaining artistic practice	Reorienting practice against or away from the dominant logic of AI innovation Pursuing innovation in artistic practice Maintaining continuity through self-defined limits

Table 3: Themes and subthemes as structured and formulated right after the analysis and before writing the results section of this article. Writing this paper has allowed us to further refine boundaries and formulations.

D Participants list and background

Artist	Medium	Example of artwork using ML	Year
Allison Parrish	Poetry	Articulations	2018
Atay Ilgun	Multimedia, music, performance	Realiti	2019
Ben Bogart	Visual/generative art	Through the haze of a machine's mind we may glimpse our collective imaginations (Blade Runner)	2017
Bernat Cuní	Computational design	Confusing Coleopterists	2019
Caroline Sinders	Design and research-based art	Feminist Data Set	2017
Daniel Ambrosi	Visual/generative art, photography	Dreamscapes	2016
Derrick Schultz	Visual/generative art	GAN Series A	2019
Eyal Gruss	Multimedia, Visual/generative art, poetry	WanderGAN: Finding angelic Savyon (v2)	2019
Feileacan McCormick (Entangled Others)	Generative art, mixed-media	artificial remannts	2019
Ganbrood	Visual/generative art	mr. Potts	2019
Hannu Töyrylä	Visual/generative art	The fires	2018
Hugo Caselles-Dupré (Obvious)	Visual/generative art	Portrait of Edmond de Belamy	2018
Fabin Rasheed	Visual/generative art	Auria Kathi	2019
Kevin Romond	Visual/generative art	Good Fortune with Flowers	2019
Kirell Benzi	Visual/generative art	Japanese reflection	2019
Lenka Hamosova	Multimedia, design and research-based art	Strange Attractions	2019
Mar Canet Solà (Varvara & Mar)	Multimedia, research-based art	Under the water	2019
Mariel Pettee	Danse	Beyond Imitation	2019
Mario Klingemann	Multimedia, Visual/generative art	Memories of Passersby	2018
Masaru Mizuochi	Multimedia, Visual/generative art	Dimage	2018
Nao Tokui	Music and sound	Imaginary landscape	2018
Refik Anadol	Multimedia, Visual/generative art, architecture	Machine Hallucinations : ISS Dreams	2018
Shi Weili	Multimedia, Visual/generative art	Terra Mars Series	2019
Shyam Sreevalsan	Visual/generative art, generative art	Follow no one	2019
Susie Rong Fu	Multimedia	Self portrait	2018
Terence Broad	Visual/generative art	(un)stable equilibrium	2019
Vadim Epstein	Visual/generative art, generative art	Narciss	2018
Varvara Guljajeva (Varvara & Mar)	Multimedia, research-based art	Under the water	2019
Yuguang Zhang	Multimedia, performance	Cats	2019
Yura Miron	Visual/generative art	Cosmoline	2019

Table 4: Overview of participating artists (alphabetically ordered), including links to their portfolios, primary artistic media, and an example of an ML-related artwork created before 2020. These examples were identified through publicly available portfolios and may not represent the artists' earliest work with ML nor the full breadth of their practices. All participants began engaging with machine learning between 2015 and 2020, though many had established artistic practices prior to this period.