

Underground AI? Critical Approaches to Generative Cinema through Amateur Filmmaking

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Abstract

Amateurism (e.g., hobbyist and do-it-yourself making) has long helped human-computer interaction (HCI) scholars map alternatives to status quo technology developments, cultures, and practices. Following the 2023 Hollywood film worker strikes, many scholars, artists, and activists alike have called for alternative approaches to AI that reclaim the apparatus for co-creative and resistant means. Towards this end, we conduct an 11-week diary study with 20 amateur filmmakers of 15 AI-infused films, investigating the emerging space of generative cinema as a critical technical practice. Our close reading of the films and filmmakers' reflections on their processes reveal four critical approaches to negotiating AI use in filmmaking: minimization, maximization, compartmentalization, and revitalization. We discuss how these approaches suggest the potential for underground filmmaking cultures to form around AI with critical amateurs reclaiming social control over the creative possibilities.

CCS Concepts

• Applied computing → Arts and humanities; Media arts.

Keywords

AI, AI Art, Amateurism, Bias, Creativity, Critical Humanistic Inquiry, Cinema, Cinematography, Critical Technical Practice, Film, Filmmaking, Generative AI, Non-Use, Storytelling, Underground Film, Video, Visual Storytelling

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1 Introduction

American independent filmmaker Jim Jarmusch describes himself in a 2017 interview as an amateur “because the origin of the word amateur means ‘the love of a form’ and professional means ‘I do this for money’” [84]. As a prolific film director, screenwriter, producer,

and editor whose many international accolades include Cannes Film Festival awards, his identification with “amateur” cleaves the colloquial usage of the term from designating a lack of expertise. Indeed, Patricia Zimmermann’s foundational inquiry into practices and ideologies of amateur filmmaking reveal that “amateur film is not simply an inert designation of inferior film practice and ideology but rather is a historical process of social control over representation” [103]. As such, this study embraces amateurism as a non-hegemonic orientation that encompasses a wide spectrum of technical skill proficiency and compelling aesthetic approaches. Broadly construed, amateurism has historically opened up space for alternative forms of creative expression that connect to the ethos and context of underground cinema, where filmmakers defy mainstream norms and embrace innovation in community.

With the wider availability of portable film cameras, reversible film stocks, and low-budget optical printing in the late 1950s onwards, a diversity of amateur filmmakers fostered community around anti-establishment, formally innovative films often encapsulated by the term underground cinema. Underground cinema encompasses independently made and distributed films with a strong focus on cinematic form and personal expression rather than traditional narrative arcs. Given their anti-establishment disposition, underground filmmakers refute an idealized film style by embracing novel techniques and incorporating emergent technologies. As Parker Tyler chronicled in 1969, the term “underground” became increasingly popular in the US and UK in the 1960s, eclipsing the institutional absorption of “avant-garde” and soliciting more collaboration than “experimental” [97]. To be clear, underground filmmakers are “amateurs” in their non-hegemonic and inventive orientation, which exceeds conventional categorization as novices or newcomers. Our study brings film studies concepts of the “amateur” (incorporating practitioners from novice to expert) to bear on the under-examined possibilities and politics of generative artificial intelligence (AI) in cinema. We find that amateur orientations to the production of generative cinema yield the potential for underground AI filmmaking.

We define generative cinema as an emerging design space where neural networks—machine learning techniques such as diffusion models, visual transformers, natural language generation/processing, and computer vision—support various phases of film production by analyzing patterns in large datasets to statistically model and generate content (audio, visual, or text). While complex technologies, automation, computer-generated imagery (CGI), and software have long played a role in filmmaking [11, 66, 68], the multimodal content of generative AI suggests potential to undermine a wider set of practices—even historically analog ones like screenwriting.

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Many film workers have responded to the replacement threats posed by AI in dominant film industries, arguing for more attention to managerial control [52].

In an era marked by cultural anxieties and aspirations of generative AI, amateur film production brings a particularly compelling perspective to computational design. In the context of non-commercial production, filmmakers often engage emerging sociotechnical developments as a means of cultural critique [15, 39, 41]. What might happen when this critique works through and with generative AI? How might amateur modes of production offer different approaches to the relationship between generative AI and creative practices such as filmmaking? This study takes up these questions in the robust conceptual terrain of amateur film to discuss AI filmmaking practices. In the field of human-computer interaction (HCI), amateurism has long informed computational analysis and development, particularly in the realm of filmmaking [32, 42, 63]. Tracing the formation of amateurism has helped identify barriers to digital access [16], as well as opportunities for subversive and generative critique of mainstream systems [3]. Building from this work, in this paper, we explore the central questions: (1) *how might amateur approaches to AI filmmaking subvert dominant narratives and representations*; and (2) *how might such approaches help reset the cultural and political possibilities of generative cinema?*

Following an 11-week diary and filmmaking study with 20 amateur filmmakers of 15 AI-infused films, we describe a range of critical techniques for reckoning with AI integration across production processes. We argue that critical AI engagement does not operate as binary forms of use or non-use, but rather reorganizes film production across multiple registers of negotiated use. More specifically, we identify four critical approaches to AI filmmaking: (1) minimization of AI to contain its infiltration and encroachment on the craft; (2) maximization of AI to expose and subvert its harms; (3) compartmentalization of AI to silo it into a function or phase of production; and (4) revitalization of AI to imbue it with alternative lifeworlds that resist normative representations. Altogether, these approaches reveal how amateurism brings creative experimentation and criticality to the AI apparatus and film techno-culture.

With this study, we intervene in HCI literatures on critical and creative AI, as well as on filmmaking innovation, along three dimensions. To critical conversations on creative AI practices (e.g., [27, 49, 59–61]), we contribute empirical knowledge of how amateur filmmakers—a group yet to be studied in this context—grapple with automation vs. augmentation, artistic impact, and alternative techno-cultural possibilities. To HCI filmmaking (e.g., [13, 34, 40, 42, 90]), we identify four approaches for algorithmic engagement that help analysts and practitioners navigate the sensationalized marketing yet opaque role of AI in film production. Lastly, to scholars of design methods, we expand conversations on design inquiry through critical technical practice by tracing how an underground AI filmmaking culture may shed light on the tool’s inner workings and help subvert the politics of use to provisionally reclaim “social control over representation” [103].

2 Related Work

To ground our examination of amateurism and AI in filmmaking, we turn to three main bodies of work: (1) scholarship on design

methods that considers critical technical practice a means of knowledge production; (2) literature on HCI filmmaking that examines questions of professionalism, civic advocacy, and algorithmic films; and (3) interlocking HCI concerns for algorithmic and creative activity. While the first line of inquiry focuses on the particular format of film as a means of knowledge production, the second examines filmmaking as an artistic and practical HCI engagement; and the third examines the emerging conversations around issues of creative imagination and control amid the evolving role of AI. Across these three areas, we bound our inquiry to HCI conversations that lay the groundwork for our consideration of amateurism and our particular approach to inquiry.

2.1 Critical Technical Practice as Design Inquiry

As a first line of inquiry, we draw from HCI research that treats emerging technological phenomena not only as a subject of study, but also as a means of knowledge production. Often enumerated through traditions of speculative, afrofuturist, somatic, and first-person reflective design, this scholarship approaches the construction and engagement of computational tools as a means of building greater understanding about tools, contextual use (and non-use), and ourselves (as tool users, builders, analysts etc.) [12, 77, 78].

A related conversation focuses on the process of technical development as a means of generative critique. For Phil Agre [2], and later HCI scholars such as Phoebe Sengers [91], Mayak Malik [65], and Veronica Abebe [1], the idea of “critical technical practice” represents a potent orientation to such activity. Working across the early decades of AI research, Agre notes the importance of careful reflexivity in the uncovering of social norms, historical precedents, and political commitments hidden within and reinforced by a given computational system [2]. Expanding this work, Malik and colleagues put Agre’s concern for critical awareness in conversation with Paulo Feire’s [35] concept of “critical consciousness,” calling for a turn to “critical technical awakenings” wherein people embedded in a technical worldview gain new insight into the bounded character of their perspectives [65]. We see this lineage of recent scholarship (aligned with critical technical awakenings) as intertwined with the turn to aesthetic and somaesthetic modes of inquiry [28, 54, 56]. Our approach knowledge production thus draws from this wider set of concerns for building critical consciousness into HCI modes of multisensory engagement and analysis, exposing the important role of aesthetic and embodied interpretations.

By building on and across these approaches we highlight a concern for hobbyist activity, and those still building knowledge and expertise around a particular technical process. In particular, we turn to the work of amateur AI filmmakers who are engaging with a tool to investigate the wider circumstances of its formation and field of influence (social, material, political, cultural, etc.). This analysis involves using the making process as an avenue for gaining awareness of hidden values, norms and politics, but also as a means of throwing the wider context of AI development into new relief.

2.2 HCI and Filmmaking

Given film’s long dependence on complex technology [11], generative cinema is rooted in extensive histories of algorithmic systems that, as one key reference point, date back to the 1950s when CGI

was introduced in the Hollywood studio system. An early historical example of computational filmmaking in Hollywood is Michael Crichton’s *Westworld* (1973) [22], which was the first feature film to use CGI with live-action footage. Meanwhile, a prominent example in academic research is Lev Manovich and Andreas Kratky’s software-generated film project, *Soft Cinema* (2005), which used algorithms to assemble narrative content from discrete audio, visual, and textual elements in real-time [66]. This project demonstrated how computational processes can create new viewing experiences, raising questions around authorship and narrative coherence [66]. In analyzing such works, Marina Hassapopoulou argues that, rather than replacing human creativity, algorithmic filmmaking can lead to new hybrid forms of co-creative expression that push cinema even further toward its “postcinematic” condition where traditional boundaries between human and machine creativity become increasingly fluid [55]. However, she also raises concerns about how AI can homogenize cultural expression and reinforce existing biases [55]. These works reveal that algorithmic advances do not mark a complete break from traditional cinema, but an evolution that expands, transforms, and complicates earlier experimental practices, which connect contemporary AI filmmaking to ongoing histories.

With the above background on the rise of generative AI in cinema, we now turn our focus to how HCI researchers in particular have studied film technologies and practices across a variety of contexts. Here, we review literature on amateur (vs. professional), civic, and generative filmmaking. We review these areas to motivate our investigation into how these three areas intersect in a context where amateurs adapt AI tools for creative design and/as filmmaking. As Manovich has argued since the advent of the 1993 After Effects interface, filmmaking is increasingly a digital design process as filmmakers operate as moving image designers and vice-versa [66]. While there are troves of related work on film production, our review is scoped to literature on its intersections with HCI design.

2.2.1 Amateur vs. Professional Filmmaking. Amateur filmmaking has been a significant area of interest in HCI research, particularly in the context of democratizing film production [8, 24] and understanding how it differs from professional practices [25, 44]. Engström and colleagues develop the notion of “amateur vision” to describe the personal, experimental approach that amateur filmmakers often take, emphasizing self-expression and community collaboration over professional standards and “high production value” [32]. To support such approaches among “non-professionals,” Green and colleagues present *Cinehack*, a DIY cinematography project exploring low-cost alternatives to specialist equipment. Their work finds the importance of creating particular conditions—such as material resources, post-production assistance, and moral support—for amateurs to make high-quality, low-cost films. [42]. With shared goals, other HCI scholars have designed systems to achieve the following: streamline the filmmaking process for casual video-makers [34]; teach film students about cinematography [7]; and support novices in implementing cinematic conventions [24]. These studies highlight ongoing efforts to make filmmaking accessible, but with more of a focus on traditional rather than experimental techniques.

Meanwhile, prior work on professional production practices in film and adjacent domains (radio, television, theater) provide

insight into how they differ from those of amateurs, largely for political and economic reasons associated with technological change. In a prior study, we investigate Hollywood workers’ motivations for striking against generative AI in 2023, finding that they object to how it threatens to undermine their craft and labor through interlocking forces of automation, alienation, acceleration, and artificiality [52]. Along these lines, Selfridge and Pauletto describe how professional sound designers for film and radio have to negotiate their tools under the authority of industry hierarchies [90]. As for theater production, Nicholas and colleagues find that professional production designers oppose the use of technology as a “cost-saving device” rather than storytelling enhancer [75]. With respect to television production, Smith and colleagues highlight the need for a worker-centered approach to address the disruption that streaming technologies have incurred on labor [93]. These works reveal tensions with technology tied to for-profit work that may or may not apply to hobbyists. Unanswered questions remain around how filmmakers might use or not use technology when they hold all the decision-making power with primarily not-for-profit incentives.

2.2.2 Civic Filmmaking. Prior work also reveals various critical approaches to filmmaking in civic contexts. One recurring approach involves using film technology to counter dominant narratives and representations [57], as well as subvert the power structures and industry norms of mainstream production systems [41, 45, 98]. Dominant narratives and representations not only overpower how technology is perceived and adopted, but also influence the kinds of stories that mainstream media and technology companies profit off. This includes reductive portrayals of innovation and linear progress that sustain commercial interests. To defy such hegemony, Green and colleagues explore how interactive documentary technology can allow for telling multiple stories rather than a singular narrative [40], while also opening up conversations about societal issues such as privacy and consent [39]. Another approach involves analyzing [53] and making films to speculate about possible design futures—from sustainable food systems [79, 80] to transportation, banking, and biometric data applications [13, 14]—that serve as social critique. These critical approaches in civic contexts suggest alternative ways of engaging with film and technology, which might inform how amateur filmmakers command AI to intervene in social discourse.

2.2.3 Generative Filmmaking. With a prescient outlook in 2016, Aylett and colleagues held a CHI workshop to explore the application of cinematographic techniques to HCI research, emphasizing the tensions between automated film generation and the social and psychological aspects of digital personhood [5]. Since then, more studies have explored the emerging applications of AI for filmmaking, ranging from intelligent assistance for specific techniques [89] to broader industry-wide [18] and societal impacts [43]. Film applications of “expressive AI” [69, 99] have many rich software histories and theories intertwined with games [55, 70]. Yet, computational filmmaking [10, 66] is becoming increasingly distinct with the rise of generative models and AI aesthetics [67]. Recent explorations include Gagliano and colleagues’ dynamic generative films with three-way authorship (among directors, audiences, and AI characters) [37], as well as Smith and colleagues’ demonstration of the growing trend that is AI-generated movie trailers [94]. Meanwhile, in an earlier work, we also begin to consider how nascent moving

image generators might lower barriers for independent filmmakers [47]. While these studies assess the emergent landscape of generative cinema, they only scratch the surface of what the latest technological transformation might afford amateurs in particular.

2.3 HCI and Creative AI Practice

In lockstep with the rise of generative models is the integration of AI and art practice. This subsection reviews HCI literature on three main conversations: augmentation vs. automation of creativity, implications of AI for artists, and alternative techno-imaginaries that subvert the dominant AI art paradigm. Although this research offers insight into how established artists engage with AI, it has yet to examine amateur filmmakers, which motivates our study.

2.3.1 Automated vs. Augmented Creativity. The discourse on AI in creative practices often centers around a tense distinction between computational creativity (automation) and creativity support (augmentation). While computational creativity investigates automated approaches to visual art and storytelling [20, 48, 49], creativity support tools (CSTs) explore co-creation between AI and artists [19, 23, 36]. In particular, Compton and Mateas develop the concept of “casual creators” to describe generative systems for amateurs (and other recreational users) to exercise creativity for intrinsic joy rather than productive tasks [21]. Across these works, we learn about a variety of tensions surrounding how such tools reshape creative traditions (e.g., what work they eliminate vs. create) and how automated systems reproduce human creativity in harmful ways (e.g., biases and threats to labor). On this spectrum from automation to augmentation tools, where generative AI fits in exactly remains an ongoing question, particularly when it comes to filmmaking.

2.3.2 Impact on Art Practice and Labor. AI is increasingly changing the parameters of art practice [17, 60] with varying degrees of resistance and acceptance among artists. Jiang and colleagues detail the harmful impact of AI on artists such as reputation damage, theft, and economic loss [59]. However, artists have also begun to negotiate and even embrace the potential for AI to meaningfully reshape creative practice. Kaila and colleagues’ recent study of 20 artists across mediums examines how AI integration produces “frictions”—instances where the creative flow is disrupted, forcing artists to confront technological challenges or reconceptualize approaches [61]. They find that some artists observe a notable contrast between the “marketing spectacle” that surrounds AI hype and the modest reality of its impact on their work. They further describe how the frictions are not limited to obstacles or tensions with automation, but also generative sources of additional manual and conceptual labor that push artists to engage more deeply with their materials and experiment with new modalities. Their study also emphasizes the embedded power dynamics, politics, and social narratives of AI that compel negotiation and reconfiguration of roles (e.g., artists now seeing themselves as “producers”). While the broad focus provides insights into the practices of established artists, it suggests a need for medium-specific inquiries into how these dynamics manifest in amateur contexts, particularly among filmmakers.

2.3.3 Alternative Techno-Imaginaries. A vibrant body of work examines how artists and researchers imagine algorithms in ways that contrast with the dominant AI paradigm. While some work finds

the importance of embodied, non-AI approaches (e.g., for counter-storytelling art [46, 51]), other works investigate ways of reclaiming and reimagining the AI apparatus through subversive means—from anti-oppressive inclusivity [29, 30] to aestheticization of its oppressive composition as means to expose it [6, 27]. Through a design justice lens, Jääskeläinen and colleagues work with 14 artists to sketch alternative visions of creative AI, finding tensions between self- and collective interest [60]. This work suggests that even if AI is reimagined to support an individual artist in making critical work, it may still impose negative externalities on broader society (e.g., the climate) that need to be considered beyond the impact on art practice [58, 85]. These works illuminate how AI art practices might be (re)oriented to counter conventional techno-imaginaries.

3 Methodology

3.1 Study Design

With Institutional Review Board approval, we invited 20 amateur filmmakers enrolled in a university to participate in an 11-week long group focused on filmmaking with generative AI from January to March 2024, for which they received course credit and consented to participating in research activities. From an interpretivist orientation, this was not a convenience sampling method, but a relational approach to recruiting amateurs in their social and cultural contexts that we are embedded in as researchers. This aligns with interpretivism by prioritizing the situated nature of amateur practices and our positionalities as relational strengths that enable deeper insights rather than present unwanted biases or limitations.

Participation was voluntary in several ways. For one, the course was graded on a pass/fail basis and not required to graduate, which enabled opting in or out along the way. Additionally, the course offered a variable credit model (2 to 5 credits), so that participants could voluntarily allocate a range of desired time. To apply for the group, applicants submitted a form, detailing their relevant interests and prior experiences with filmmaking. Admits included amateur filmmakers with backgrounds in computer science, design, engineering, film studies, digital art, sound, and more. We asked them to make short films (2-10 minutes long) as individuals, pairs, or in small groups. While individuals tried to fill every role themselves, those who worked in teams experimented with dividing roles across production phases. We also asked all participants to write weekly and final reflections on how they reckoned with AI throughout the process. However, we did not require participants to use AI. They all had the option to refuse to use AI insofar as they still reckoned with its premise somehow. We told all participants that they would receive full credit as long as they submitted a short film in the end and did not miss more than two weekly meetings (with leniency under extenuating circumstances). No one dropped out or failed.

A key component of this study is its classroom context, which provided a collaborative workshop atmosphere in a non-commercial setting. This social context introduces a new approach to discussions of AI, filmmaking, and wage labor. Without a profit motivation or pressure to conform to industry conventions or trends, our study design allowed for nurturing the creative autonomy, decision-making power, and intellectual labor of amateur filmmakers in a supportive, low-stakes setting. Given the financial backing of AI in higher education, we do not consider classrooms to be fully outside

the scope of industry influences. However, our study design created particular conditions for creative production by guaranteeing full course credit to all participants, while building on the historical role of higher education institutions in fostering underground cinema. By providing space and opportunities for creative praxis, resources, collaboration, and screenings, colleges and universities have long incubated place-based underground film movements [92].¹

To incubate critical approaches, we structured a series of smaller assignments, including weekly reflections and critiques over the 11-week period. Given the varying degrees of expertise among participants, we constructed a comprehensive resources document to provide guidance in generative AI use, digital filmmaking, critical theorizing, and distribution. These resources included a curated set of generative models to explore for producing image, sound, and text, as well as best practices for prompt engineering. We also provided each participant with a digital filmmaking handbook [4] and the Yale Film Analysis Guide for reference [101]. Furthermore, we curated a set of weekly readings on critical AI to reorient their thinking and theorizing around the ethical dilemmas and labor tensions. While we did not tell participants how to approach AI, we purposely cultivated critical perspectives aligned with the ethos and context of underground cinema. Lastly, we provided a list of film festivals to consider submitting their work for distribution.

As for the generative AI tools, most filmmakers used Runway because the platform is the most deliberately designed for filmmaking and had an upcoming AI film festival where they could submit their work. They also used many other AI tools (as elaborated on in Section 4). Each week, they reflected on their progress and encounters with AI to leave traces of their processes along the way. Additionally, the entire group met together for two hours each week with half the group presenting their work in progress for critique and rotating who presented on a biweekly basis. Some filmmakers teamed up, resulting in a total of 15 AI films. Once the films were finalized, we organized a screening and discussion at a local library, where the filmmakers also shared their critical reflections on AI with a public audience. Filmmakers provided consent to participate in this research, including the use of their materials and names in future publications. Lastly, as part of a double-consent process, we sent participants a final version of this manuscript to review and confirm that we properly represented their perspectives and work.

3.2 Analyses

We analyzed the AI-infused films, weekly reflections, final reflections, and biweekly presentations from critiques. We performed close readings, along with critical and formal analysis. In this section, we further detail how we performed this analytical process.

We conducted a close reading of the reflections and presentations. For the weekly reflections (about half a page per person), filmmakers were asked to describe their AI usages, ethical dilemmas, and encounters with bias, as well as strategies, challenges, and surprises associated with prompt engineering and camera control. We closely read and annotated filmmakers' weekly reflections that were all aggregated in one shared document. This culminated in a 75-page document of text and images. We commented notes in

the margins, and some filmmakers also commented on each other's reflections, engaging in dialogue asynchronously. We also created a private document for us co-authors, where we started to synthesize key insights and themes across the reflections. Additionally, at weekly critiques, filmmakers presented slideshows, which we also took notes on and analyzed. The final reflections (about four pages per person) completed at the end of the 11-week period addressed the same questions as the weekly reflections, but with additional prompts about how AI shaped divisions of labor, craft, and affective experiences. We closely read and annotated each final reflection.

Finally, the filmmakers submitted films, which we closely read by drawing on film semiotics [72] to perform formal and critical analysis [73]. To begin this process, we watched all the films (separately and together). We then started to form provisional arguments (and sub-arguments) about how they were using AI. In looking at the set of films as a whole, we grouped ones together that seemed to use AI similarly. Next, we analyzed individual films by segmenting them according to themes based on the design of the film (as commonly done in film analysis; e.g., [9]). In a sketchbook, we constructed a chart with three columns: segment (theme), description (signs), analysis (interpretation). In the segment column, we categorized turning points in plot development or cinematic technique (e.g., the end of a scene or sequence). In the description column, we noted signs and syntax related to *mise-en-scène*, narrative, editing, cinematography, and sound. In the analysis column, we interpreted how the signs build on and are positioned in relation to one another, making meaning. As a result, we formulated key examples and evidence of how each film demonstrates reckoning with AI in one of four different ways, which we present as thematic insights.

4 Findings

Below we consider the 15 films along four axes of critical AI engagement: minimization, maximization, compartmentalization, and revitalization. Some of the films exhibit multiple approaches that are not always mutually exclusive or static, but rather evolving through iterative processes. That said, each final cut exhibits one approach most saliently, which we focus on analyzing. For each critical approach, we first speak at a high level about the breadth of films and then closely read one in-depth that particularly exemplifies it, while also annotating some of the filmmakers' reflections.

4.1 Minimization

The first critical approach entails minimizing the role of AI in the filmmaking process. This includes minimally using or not using AI. This may be for political or philosophical reasons such as objecting to how it might corrupt the craft, as well as practical reasons such as not finding much value in its affordances after earnest exploration. Below, we share a few examples of films that take this critical approach and then closely read one in particular.

One filmmaker, Hazel Zhu, ultimately decided to not use AI at all. After initially approaching AI with curiosity and creativity, Zhu's filmmaking journey unexpectedly changed directions when her computer crashed, resulting in the loss of all her AI-generated files with no film to share in time for the screening. This prompted her to rethink the ephemerality, precarity, and artificiality of algorithmic film and computational memory. Zhu also resisted confrontations

¹Future research warrants further discussion on the systemic cutbacks on academic positions that make classroom-based studies like ours possible.

with how algorithmic bias produced stereotypical representations. She reflected on how any time that she included an “office-related word,” the model generated white men unless she specified another gender or race to push back against it. Furthermore, she wrestled with ethical questions of privacy and consent when considering whether or not to input raw footage into image-to-image and video-to-video generators. Given all these encounters, she concluded:

I still hold a very suspicious attitude towards the utilization and efficiency [of AI] in terms of artistic expression. To me, instead of a helpful tool that could carry my creative thoughts better, generative AI is still a black box, a spectacle for me that I don't think is that helpful for me as an artist or a storyteller... It makes me realize that something valuable can never be taken over by any types of digital arts or generative AI.

For this reason, Zhu ultimately decided to minimize her use of AI in film production. Despite open-mindedly experimenting with AI, she rejected its spectacularization—not only finding that it did not offer much value beyond a fleeting sense of novelty, but also created more problems along discriminatory axes.

Another approach to minimizing AI use involves smaller decisions not to use it at different points in time for various reasons. Some filmmakers started out by using AI in some way because they felt like it might have value to offer, but then decided that it was not actually conducive to materializing their creative visions. For example, in making a film entitled *Where Is My Soul?* (2024), Camden Cykler and Darby Moore explored the potential for AI to generate a soundtrack. They asked ChatGPT to generate chords for a song that draws inspiration from “Where Is My Mind?” by the Pixies to which it replied with altered lyrics, simple chords, and ABC notation. Ultimately, they decided not to use ChatGPT’s suggested music, except for in one small part of their film for purposes of juxtaposing the “artificial” and “soulless” (see [52]) sound with that of another soundtrack that they created without AI and performed on the piano to foreground human touch. This approach demonstrates a minimal use of AI to critique and resist its artificial nature in intimate productions. To further illustrate this minimizing approach, we next turn to a close reading of one film in particular.

4.1.1 Asian_Girl_02.02.2024. Mina Kang and Christina Sa’s film is about intimate autobiographical encounters with surveillance and privacy breaches in the everyday life of Kang who acts as both the subject and filmmaker. In depicting the realities of living in hyper-connected contemporary societies, the film spotlights how AI-powered smart home devices and portable technologies invade personal privacy by advancing hidden gazes of surveillants throughout the subject’s daily activities including waking up in the morning, eating, entering and exiting her home, eating, and so on. The film score features mostly mundane background noise that the protagonist encounters such as the sound of the television playing while she eats ramen noodles and other ambient noises with brief moments of dialogue. This composes a spectator experience of gazing on the subject in her intimate, private, and routine moments.

Kang and Sa shot the film from a surveillant’s point-of-view, using smartphone cameras and smart home devices to engage particular cinematic techniques. The film rejects the use of frontality, which is when human figures look directly and face the camera

front-on, as commonly done in Hollywood narrative cinema. The film also stitches together narrow and wide aspect ratios from different data-capturing devices. The film compiles live-action footage shot with smartphone cameras and front-of-house security cameras (narrow aspect ratios), as well as pet cams and home CCTV systems (wide aspect ratios). This suggests a pervasive sense of surveillance, as the protagonist moves through different environments and we, as spectators, gaze upon her from shifting lenses that correspond with whichever device surrounds her in the moment. The film also uses subversive levels of framing by shooting the camera from either low or high angles but never at eye level. Meanwhile, the film employs smartphone cameras to create low angle shots, in which the subject is looking down at her device. Similarly, the film uses security and home CCTV cameras to create high angle shots from their wall-mounted positions. Altogether, this creates the impression that the subject is oblivious to the voyeuristic gaze and powerless in the surveillance-scape. Upon reflection, Kang and Sa say that they made the film to raise critical questions around the trade-offs between technological convenience and privacy erosion.

In making the film, Kang and Sa use AI in short and limited spurts. They reflect on finding AI counter-productive and choosing not to use it mostly for artistic reasons, but not completely refusing its integration either. Kang and Sa say that they “sparingly” used AI if and when it could help them execute their creative vision, while also pushing back against the notion that it has much value to offer them as filmmakers today. For example, when they inputted live-action footage into Runway’s video-to-video generator to create visual effects for aesthetic purposes, they found that it changed and distorted their faces in a way that clashed with the narrative, leading them to discard the outputs. In their reflection, they further speak to their frustration and disappointment when trying to use Runway’s text-to-video generator to create a surveillance scene.

Integration of AI into our film production was minimal, primarily due to its limited capacity to interpret and execute our prompts effectively... It also introduced a level of complexity and redundancy to the narrative... In various attempts to build a scene featuring a surveillance room with nine screens, dim lighting, and a zooming-out camera effect, Runway was simply incapable of understanding our prompt... and led to relying more heavily on human input and creativity to achieve the desired result...

Kang and Sa are articulating how the AI moving image generators failed to precisely grasp their prompts and heed to the intricacies of lighting, camera movement, and overall scene composition in line with their creative vision. These unsatisfactory experiments with AI made them turn to what they could creatively make without it instead. They concluded: “AI... add[ed] a significant amount of stress to our existing workload... Instead of simplifying the processes, it introduced new complexities, notably increasing the amount of time dedicated to prompting.” AI thus detracted more than it helped, leading them to resist its integration beyond minimal involvement.

With all that said, Kang and Sa’s resistance to AI is distinct from abject opposition. While they decided not to use the unsatisfactory generations, they also experienced some moments where AI was surprisingly helpful. They reflect:

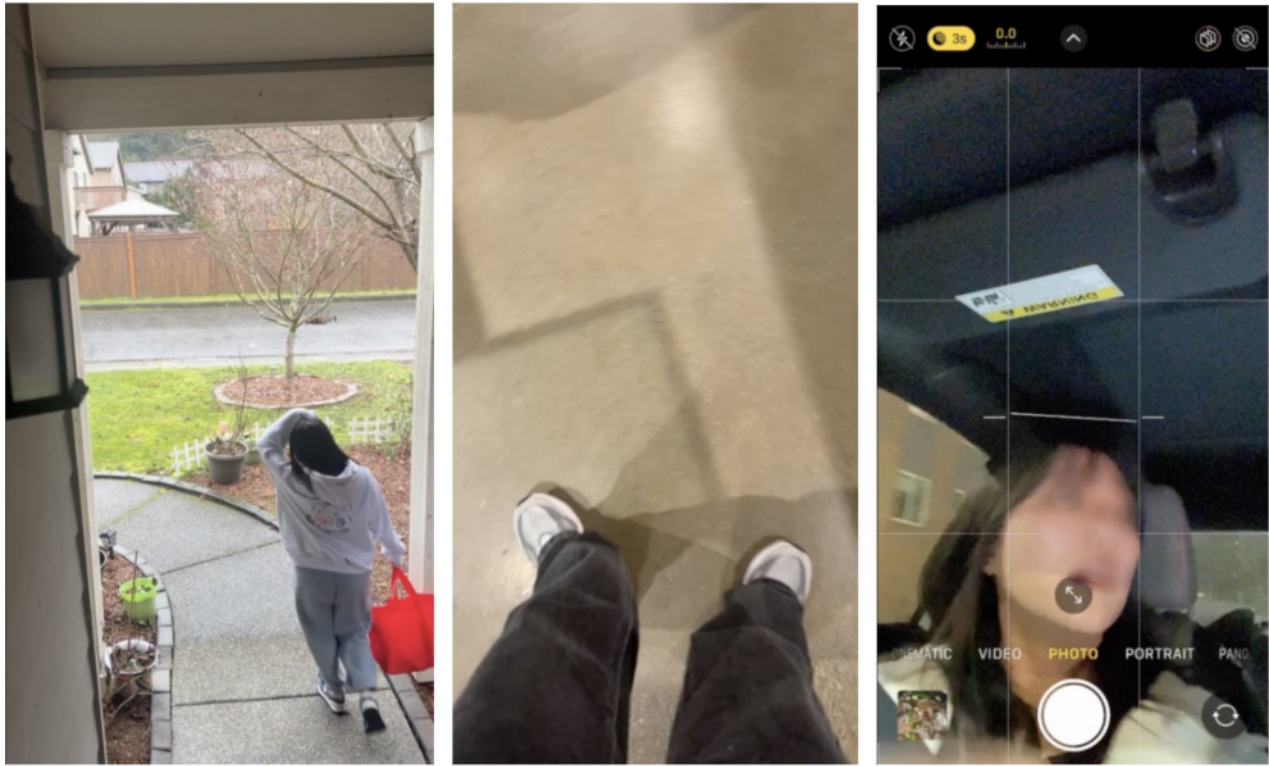


Figure 1: Images of the subject going about her day with the surveillant gaze following her.

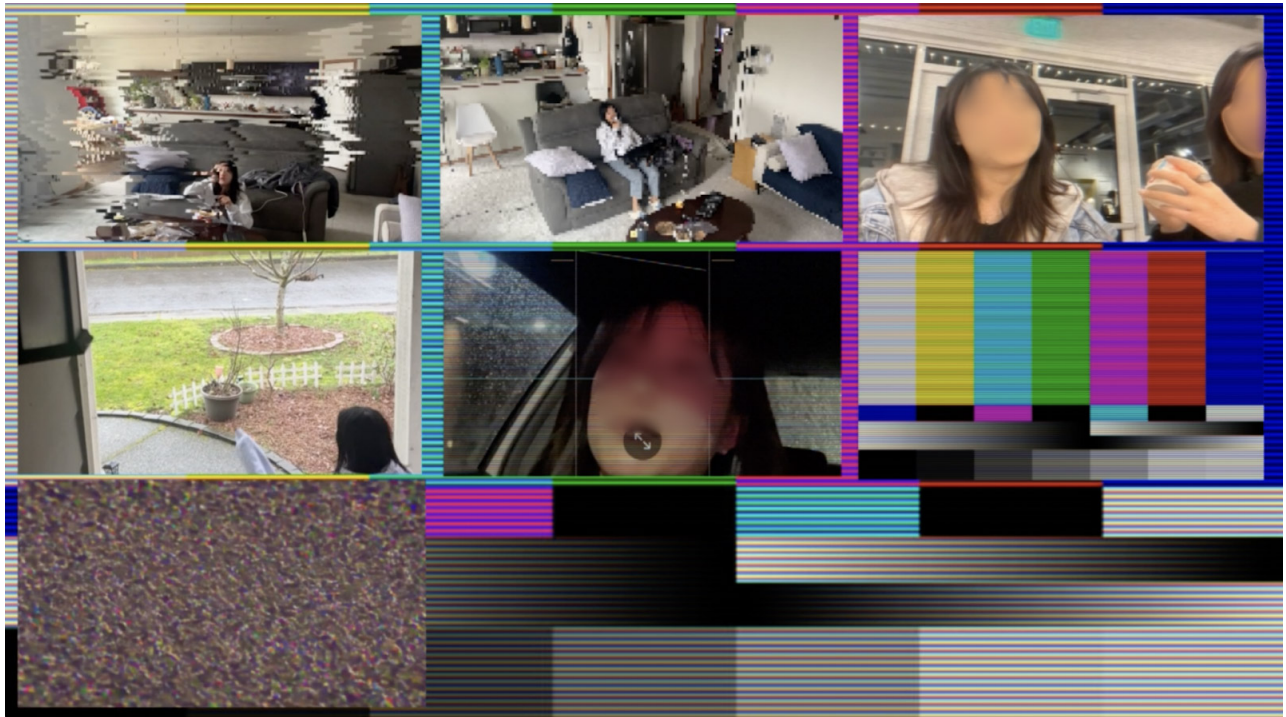


Figure 2: Final scene where AI was used to create visual effects that end the film with no signal.

There were surprising moments when AI-generated content resonated unexpectedly, unveiling insights or perspectives that had not been previously contemplated. The emotional bond with the work became an interesting mix of love-hate relationship as it visualized concepts and narratives that had previously existed solely in the realm of imagination.

Kang and Sa are speaking to how AI enriched their process to an extent, particularly in how they edited the film on the Runway platform and captured live-action footage with smart home devices. The use of AI is most pronounced in the composition of the ending. In the final scene, they render a split screen of surveillance footage shown throughout the film, which ultimately crashes to end the film. The Runway editor enabled them to upload surveillance screen imagery, then overlay each screen with their own footage as well as cinematic filters. They also used the image-to-video tool to make the screens appear as if they were crashing. They rendered virtual effects that distort the footage and interrupt the split-screen with SMPTE color bars that sweep across it, ending the film with no signal. This lacking signal gestures at a sense of physical disconnection from the social media service aesthetically referenced through the film. But it also seems to play with a disconnection from AI machinery itself, as the day-in-the-life sequence leaves audiences with a sense of incompleteness and serendipitous movement that contrasts with standard or strategic algorithmic decision-making. While the filmmakers mostly resisted the distortive tendencies of AI as if it were a bug, they ultimately leaned into it as a feature for about 20 seconds of runtime. Minimization is therefore not marked by an unwavering refusal, but rather friction (see [61]), which can include generative moments of acceptance and limited permission.

4.2 Maximization

As the converse of minimization but to a similar effect, another critical approach involves hyper-using AI as much as possible to expose its pitfalls. This approach engages AI in such an extreme and excessive way that it serves as a social critique. Filmmakers who took this approach embraced AI to the fullest extent as a subversive mechanism for exaggerating its flaws as a means to spotlight them. By using AI to the fullest extent and leaning into its technical limitations, this technique contrasts with other approaches that work without, around, or against the system's shortcomings. Some films demonstrate this approach in how they are composed entirely of AI images to criticize or satirize AI's role in society and culture.

One filmmaker, Kushi Sundaram, first decided to minimize the use of AI, but then pivoted to making the entire film with AI to interrogate its potentials. At the onset, Sundaram started from a position of refusal with the intention of making a documentary-style film about the harmful impact of AI on artists. She started storyboarding a film that would include AI images that rip off artists to expose the theft and plagiarism. But as she started to probe the AI tools, she found unexpected creative inspiration, softening her adversarial stance. She reflected: *"I immediately jumped in with thinking about philosophical and ethical questions and issues surrounding art and AI and didn't give myself the chance to perhaps view AI as the tool it was, and think about using it for an alternate purpose."* In turn, Sundaram explored reclaiming AI for other means. She ultimately created

an experimental film, *Silent Strokes* (2024), as an abstract form of creative expression, stitching AI images together to invite spectators to ponder whether AI is *"pushing the boundaries of creation, or merely a copycat imitating acts of human ingenuity."* In this shift from minimization, Sundaram offers an approach to maximizing AI use as provocative means to question its adoption and essence.

Another filmmaker, James Watkins, used AI at every phase of production to expose its coloniality—how White culture constructs it as a machine 'other' destined for servitude. His film charts the path of constructed subjects generated with AI to criticize the archetypal hero's journey as a *"monomyth of the normed human's call to colonial expansion, domination, and extraction."* In the pre-production phase, he used ChatGPT and Gemini to support research, writing, and revision. In the production phase, he performed Keyframe image generation with a suite of generative adversarial network (GAN) and diffusion-based tools (DALL-E, Midjourney, Stable Diffusion). Meanwhile, he used Runway and Pika Labs platforms to render video animations of keyframes. In post-production, he used AI for sound by experimenting with Suno AI to make music, as well as ElevenLabs to generate voice over narration with text-to-speech and speech-to-speech processing tools. He also integrated traditional digital photography, sound, and video editing tools. While some of the AI outputs did not make it into the final cut, the process enabled him to interrogate AI as a tool of, in his words, *"colonialist exploitation."* His reflection states that his film provokes AI as a *"semi-autonomous servant or, more accurately, a slave."* This approach maximizes AI use to reappropriate it as an anti-colonial apparatus.

To further elucidate maximization, we next closely read a film that uses AI in an exaggerated way at every phase of production. With this approach, the film critiques the absurdity of economic agendas that push AI adoption forward regardless of social costs.

4.2.1 A Trip In Vain! This comedy horror film by Mengcha Moua is a satire about an AI corporation, Visionary AI Networks (VAIN), made in the style of an infomercial. The film is a montage of entirely AI-generated videos stitched together to tell a particular story about the beliefs and products that VAIN is selling. The film is based upon what Moua has seen actual corporations advertise. From AI products for connecting with dead loved ones to replicating people's likenesses and liberating students from homework, the film exaggerates and mocks the absurdities of AI applications. Through voiceover narration and instrumental techno-beats, the film provides audiovisual windows into different AI user scenarios. The film begins as if it is an actual infomercial with panning shots of employees at work in a swanky corporation with sterile and neutral color grading. As the plot advances, it becomes increasingly satirical and horrifying with close-up shots of uncanny, disturbing images that no longer just scan or pass by the subjects, but rather zoom in with close-ups. Moua says that this cinematic technique is *"intended to invoke a trapped gaze for the viewer, forcing them to confront the generations."* Spectators encounter masses of people with "fantastical" (see [100]) body features, embracing one another as if the imagery represents Moua's hyper-embrace of AI itself.

Moua subversively employed AI at every production phase, using its flaws as satirical commentary. In pre-production, he used ChatGPT to help him write the script, leaning into how it generates text that, in his view, has a *"polished but empty feeling"* bloated with

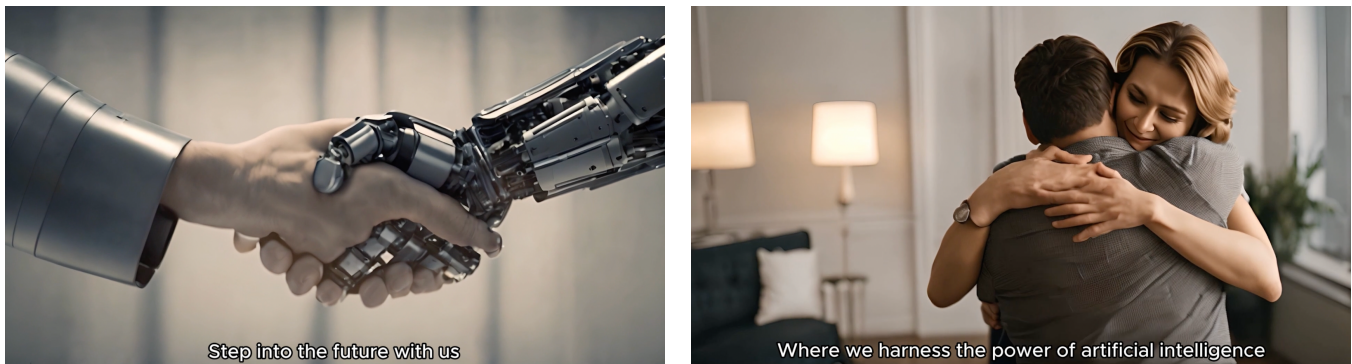


Figure 3: AI-generated actors with fantastical hands embracing the power of AI and one another.

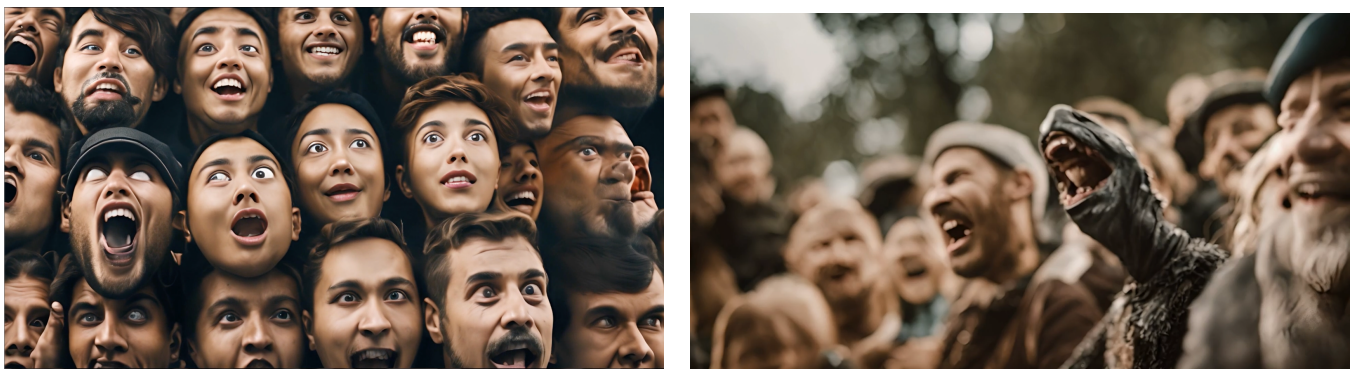


Figure 4: AI-generated crowd laughing at a comedian's joke about AI, with a turtle-like creature inadvertently among them.

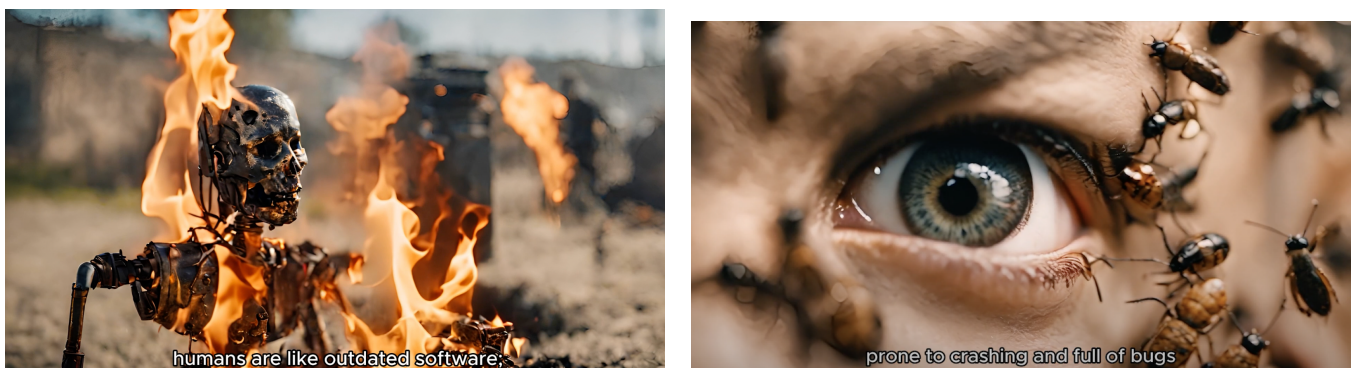


Figure 5: Portrayals of how “*humans are like outdated software; prone to crashing and full of bugs*” in an AI-driven world.

buzzwords and corporate jargon like in advertisements. He added emotional and humorous parts “to drive this idea that AI can be misguided but we should also keep in mind that humans are the ones misguiding them behind the scenes.” Then, in the production phase, he embraced Runway’s distorted and eerie AI imagery, explaining:

Most of my scary or uncanny generations were the result of a regular prompt just happening to look scary. For example, all shots that include a crowd of people laughing were never prompted to be horrific and yet they

all were... Admittedly, there were one or two instances where the AI took a prompt suggesting something scary and created something that was so unusual that I cannot give the AI credit for its intentions. For example, the prompt ‘creepy laugh’ created the shot containing the unusual turtle figure laughing with humans shown in the film and below. Every other generation with this same prompt created visuals with just regular people laughing normally.

Moua is describing how the image generators naturally facilitated his production of satirical content about AI aligned with the comedy horror genre. In other cases, he also sought to generate horrifying images of people, which the models seemed to support as well.

As for the post-production phase, Moua used Play.ht to generate the voiceover narration with AI in a robotic yet chipper monotone that slows down toward the end with an unsettling tenor. Following chaotic audiovisuals that evoke a robot apocalypse with humanoid on fire, the film ends with a human and robot shaking hands, signifying human society's embrace of AI despite its perils.

A Trip In Vain! made strong and explicit use of AI across the production process—casting, screenwriting, content, pre-production, post-production—to realize its satirical critique. With this degree of engagement, it conjures a kind of maximized use for subversion. By using AI, Moua composed an undesirable AI-driven future that enunciates and mocks the absurdities. Rather than trying to work around AI's pitfalls or refuse to engage with them, he created with them. In his reflection, he shared his initial hesitancy and discomfort in using AI before finding a way to reappropriate its affordances.

At first I felt dirty, in the sense that AI and filmmaking are largely at odds with each other right now and there is a lot of hesitancy to combine the two on a large scale. Over time though, I started to feel less dirty and more assured that AI is far from making filmmaking easier or better. This is why the humor/satire aspect was so important to me. While we can and should be conscious of the evils of AI, there is still such a disconnect between the programming and the soul of filmmaking that I can't help but laugh at its failures.

Moua is reflecting on the political hygiene associated with AI; how he felt “dirty” using the tools amid recent Hollywood labor strikes against AI (see [52]) before realizing that the anxieties and assumptions around what it can do may be overblown—at least today. By maximizing the role of AI, he concluded that it cannot possibly replace the essence of what makes a film resonant and meaningful. Moua's maximum AI approach works to satirize the dominant representations and narratives of technological progress.

4.3 Compartmentalization

The next approach to filmmaking with AI involves compartmentalizing its involvement: intentionally siloing its role into a particular function or phase of production. Films that exhibit this compartmentalized approach may use AI in aspects of pre-production (e.g., to ideate parts of a script), production (e.g., to produce imagery with a similar effect of CGI or animation) or post-production (e.g., to edit live-action footage, render visual effects, enhance location sound, generate subtitles, etc.). Regardless of the production phase, AI is siloed into a vertical such that it does not interfere with, seep into, or automate too many traditional filmmaking practices.

One filmmaker, Haotian Wu, exhibited this compartmentalized approach in using AI to generate footage, but paired with a human-authored script and voiceover. She created a visual narrative for the poem “Alone” (1829) written by Edgar Allan Poe. The poem reflects on isolation and loneliness, which Wu vividly illustrates with AI-generated moving images that depict an elderly male protagonist, navigating the changing seasons through striking shots

of solitary natural landscapes, devoid of human presence. Wu took a compartmentalized approach in the sense that she siloed AI into the role of image production. She did not use AI to generate a script that mimics raw human emotion and feeling, but rather visualizes an authentic human story. Compartmentalization here is thus an approach to using AI in controlled and contained manner that resists its untethered infiltration into multiple phases of film production.

Another filmmaker, Kevin Min, exhibited this compartmentalized approach in creating a short hand-drawn animated film with some interludes of AI imagery and text from AI-assisted writing techniques. His film entitled *Does AI Dream?* (2024) is a black-and-white animation that unravels a text-based dialogue between a sentient AI and primordial figure, contemplating consciousness and what it means to dream. An instrumental score featuring a mystical melody with waterfall sounds loops in the background. About halfway through the film, the primordial figure gives the sentient AI a glimpse into what it means to dream. The film then dissolves into an AI-generated dreamscape with poetic text about dreams overlaying a montage of surreal imagery that includes a neon-pink midnight sky full of stars, soft moonlight reflecting on an ancient fountain pool, cosmic entities radiating in outer space, and heavenly clouds floating above a mountaintop. After this glimpse into the dreamworld, the film dissolves back into black-and-white manually animated graphics, marking a distinction between where the AI representations begin and end.

To generate the dream imagery, Min fed poetic prompts into Runway's text-to-video generator. He also used ChatGPT in pre-production to provide feedback on his script, asking what it thought about what he had written and if there were any holes in the plot. In reflecting on his interactions with ChatGPT, Min writes: “*In these moments, there was an interesting intimacy of sharing the story of an AI becoming like a human with consciousness to an existing AI, creating not only a parallel but also a loss of differentiation between the story and reality for me. It almost felt like the real-world AI was the character in the script.*” Min is describing how AI played a role in pre-production that translated into the production of the film itself by animating the character that he was developing. This reflects a compartmentalized approach, as Min primarily created the film without AI, confining its use to pre-production and production tasks that augment rather than automate writing or animation. To further explore this critical approach, we turn to a close reading of another film that similarly siloed AI in the post-production phase.

4.3.1 Today I. This next film by Kenneth Yang, Keyvyn Rogers, and Ayush Choudhary is a montage of live-action vignettes about a protagonist named Silas whose everyday life begins to shift around him. Dedicated to their grandparents who suffered from dementia, *Today I* (2024) is an inventive interpretation of how changes in cognitive functioning affect visual perception and memory. Through voiceover narration, Silas chronicles his routine activities (e.g., making his bed, eating breakfast, and so on) over a five-day period, while journaling what he did each day. The voiceover narration is interrupted on occasion with short dialogues between Silas and other characters (his sister, a mechanic), which clue spectators into the fact that his recollection is off. The film also features an original score of classical music by Pascale Packia Raj, which sets the tenor of each day with a harmonious melody that shifts to dramatic and



Figure 6: Silas eating breakfast at the kitchen table as he starts to perceive the milk carton shape-shifting.



Figure 7: Silas journaling at the kitchen table as his apartment interior begins to morph and the film ends.

ominous registers when Silas experiences dementia-like symptoms. They shot the film digitally in 4K DCI at a rate of 24 fps with a Panasonic AG-DVX200 camera and Samson Meteor voiceover mic, as well as Runway tools primarily for applying visual effects to the footage in post-production.

The compartmentalized use of AI comes into play through point-of-view, over-the-shoulder, and close-up shots, where we see what Silas sees: the visual distortion of everyday objects, in which AI is used to apply visual effects over the live-action footage. Silas encounters a shape-shifting milk carton, a permuting cereal bowl, a toothbrush blending with a sink, and a microwave turning into a toaster (among other peculiarities). The film ends by zooming out into an extreme wide shot of Silas journaling at the kitchen table with his entire apartment interior morphing all around him.

To visually distort the footage of everyday objects (e.g., Fig. 6), they integrated the Erase and Replace, Motion Brush, and Frame Interpolation features in the Runway platform. First, they uploaded a still frame of the object in focus (e.g., a milk carton) and then used AI to ‘erase and replace’ it with other objects by writing text prompts (e.g., “*photorealistic old milk carton*”) for the model to generate four variations of it. To then animate and distort it, they used the Motion Brush feature, a tool for painting over static images to apply ambient motion and warp aspects of it (e.g., the text written on the milk carton). They then used the Frame Interpolation feature, a tool for fluidly transitioning between images, to blend the

four AI-generated variations of the initial object together, creating the shape-shifting effect in turn.

For the ending, they integrated Runway’s Expand Image and Frame Interpolation features to expand the visual bounds of the final scene with smooth transitions. In this final scene, Silas is journaling at his kitchen table, trying to recall what he did that day as his apartment interior begins to transform and the camera zooms out, expanding the purview. The walls become like whiteboards with cryptic AI-generated gibberish written all over them in a felt marker-like texture as a duplicate table with more journals appear, suggesting multiplicities of confusion and his immersion in it (Fig. 7). To create this effect, they uploaded an initial frame of Silas at the table, then prompted the model to generate variations that expand the apartment into other places that he encountered throughout his day. After generating several versions, they stitched and transitioned them together with the Frame Interpolation feature.

Finally, they used a few other AI tools to edit the footage and prepare it for distribution. They used Runway’s Green Screen feature, a tool that can change the background of images by tracking and masking objects, to enhance the color grading of a few scenes with characters. They also leveraged Runway’s automatic subtitle generator to make the film more accessible, as well as Adobe Premiere Pro’s AI-powered Enhance Speech tool to improve the sound of on-location dialogue rather than dubbing. AI made these post-production tasks more efficient.

Across these post-production processes, *Today I* engages a compartmentalized approach to AI use by enhancing content and form in post-production, but not replacing manual processes. In other words, the filmmakers demarcated the bounds of where AI could and could not play a role. Yang reflected on how they cautiously used AI only “*when it served a distinct purpose in the story and visuals.*” For example, they used it to visualize the illusory perception of Silas through the distortion of everyday objects in point-of-view shots; in Yang’s words: “*to create an effect of not remembering what an object looks like or how it functions.*” Similarly, in blending multiple places together with the Expanded Image feature, Yang says that they aimed “*to create a sense that these ideas were getting mixed in his mind.*” Using AI for processes like masking objects and generating subtitles that could be done without it also reflect how AI can accelerate some processes of a small, low-resourced team up against a deadline. Overall, the film reflects a compartmentalized approach in how it tempers AI to help make meaning while preventing its interference with practices that otherwise rely on human touch.

4.4 Revitalization

A fourth critical approach is revitalization of AI by imbuing new lifeworlds into its normative representations, politics, and potentials. Several filmmakers made films that consisted of AI imagery, sound, or text that moved the narrative along through revitalizing usages. For example, one filmmaker, Michelle Chang, embraced the serendipitous nature of AI use and how it might generate unexpected lifeworlds. At the onset, she sought to approach her process as an inquiry into automation—to see what she, as an individual, could make without any film equipment or crew and what might happen when automating as much as possible. During one of the first critiques, she shared an early experiment, in which she initially intended to generate moving images of a fried egg with Runway’s image-to-video tool. But instead of the model frying the static image of an egg that she inputted (as expected), it generated a surreal clip of an egg oozing and exploding in a fantastical way that seemed to enthrall spectators when presented at a critique. Chang reflected:

I think the best moments I’ve had working with [AI]... are when something surprising happens that I find unexpectedly pleasing... I simply gave Runway the image [of the egg] and asked it to predict the next four seconds of motion. Before that, I did try prompting it, but didn’t have much success in generating something I liked. So I just gave up and decided to see what the model would come up with on its own.

Chang is describing how her open and flexible approach to relinquishing control allowed her to adapt to the unexpected encounters with AI. When she leaned into the whimsical possibilities, the system generated a seemingly novel and unexpected representations. While Chang ultimately pivoted from this direction, this process encapsulates what it can mean to revitalize the pervasive and techno-deterministic aspects of AI with serendipity and uncertainty.

Other filmmakers also revitalized AI by using it to conjure lifeworlds that may not otherwise be possible—or at least much more difficult—to make. For instance, one filmmaker, An Li, created an animated film, *Afloat* (2024), about a mother and daughter whose home transforms into a hot air balloon as they float up into the sky,

entering a mystical and magical realm where the daughter goes to school. AI made it feasible for Li to materialize an imaginative world beyond what she could have created without it on her own.

To a similar worldbuilding effect but with a critical lens toward politics of representation, another filmmaker, Nupur Gorkar, created a mystical film, *3 Wishes* (2024). In the film, an artist asks ChatGPT to generate three wishes that bring her art to life. To produce the footage, Gorkar inputted images of paintings that she made about cultural disconnect and orientalism into Runway image-to-video models, which expanded the frames and animated the representations. She reflected on how making these lifeworlds that were hardly legible to AI was also a way of investigating algorithmic bias. During one of her critiques, she shared early works in progress, in which the Runway image-to-video models seemed to westernize her artwork in the generation process. To further examine this approach that involves revitalizing the generative capacities of AI to rework its politics, we move to a close reading of another film.

4.4.1 LOVE IN VR. Maza Hailu’s film entitled *LOVE IN VR* (2024) is an afrofuturist-romance about a journey for love and liberation amid the confines of a virtual world. The film follows protagonist Ezana as he immerses himself in a newfound world of virtual dating, hoping to find love. Ezana comes across the dating profile of Pomi, who is trapped in the VR world under the control of a motherboard. The plot develops via expressive visuals, dramatic lighting, text messages, and instrumental techno-beats that modulate suspense without any spoken dialogue. Hailu composes the film with a range of cinematic techniques, including strategic use of color, camera control, and off-screen space to extend the mise-en-scène. Throughout the film, colorful lighting distinguishes the VR world from the ‘real’ world. While the ‘real’ world exhibits more natural and softer lighting with yellow hues, the VR world radiates a sharp neon magenta. Warm and cool colors are used to draw contrast in the VR world itself, between the protagonist lovers flooded with romantic pink and purplish-red tones (Fig. 9) and the antagonist motherboard illuminated with icy blue hues (Fig. 10). Through close-up shots with a shallow focus, the characters’ facial expressions move the story along as the soundtrack tempers the mood and other elements blur into the background. Through these techniques, the film unravels Ezana’s conquest to free Pomi, while, in Hailu’s words, serving as “*a critique of the difficulties of using AI as a Black film creator.*”

The film revitalizes AI through head-on confrontation—artfully working around and through it—to rework its politics of representation and inclusion. Hailu used AI at every phase, including ChatGPT for script ideation (pre-production), Runway for image generation (production), and a suite of AI-sound tools (Loudly, Soundraw, and Tunetank) to generate the score (post-production). While perhaps similar to maximization in a technical sense, revitalization here entails trying to redress or circumnavigate the system defects rather than expose them. In her reflection, Hailu describes how she worked around the algorithmic biases of sound and image generators. Initially, she tried ElevenLabs AI voice generator to incorporate spoken dialogue, but it botched ethnic names (e.g., Ezana) and Black dialect. She explains: “*I attempted to generate voice dialogue for my characters, but I realized that there were perplexities in generating more culturally diverse voices. Oftentimes the voices I would generate would sound robotic or would not match the character*



Figure 8: Ezana (left) enters a VR dating world, where he meets his love Pomi (right) trapped inside of it.



Figure 9: The Motherboard (left) controls Pomi through a keyboard at her fingertips (right), which appear as an inconsistent skin tone, before she glitches into distortion when Ezana unplugs the computer to free Pomi.

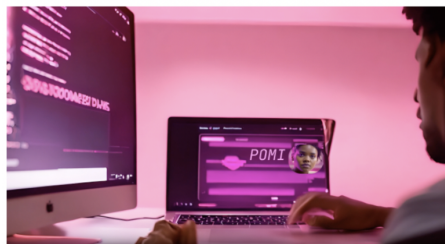


Figure 10: Shots of Ezana to work with and around the character consistency problem and AI biases.

that I had in my film.” Following these discouraging experiments, Hailu decided not to abandon AI for human voices, but rather tell the story through AI-generated music and imagery. While she was able to use AI sound tools to generate music for setting a particular mood, the biases of the image models presented other limitations.

When generating the main characters, Hailu reported that Runway struggled to process prompts of Black hairstyles (e.g., ‘fro’) and differentiate between skin tones, making characters’ dark complexions turn lighter or become distorted in videos. However, Hailu circumnavigated this character consistency problem with adroit camera control by prompting the model to generate over-the-shoulder shots, medium shots of silhouettes, and close-up shots of body

parts without characters’ faces. In some shots of the characters, their faces appear distorted or different from how they did in a prior scene. But Hailu ultimately “embraced” this, reflecting:

I decided to embrace certain instances where I knew I could not regenerate desired videos... The character [would look] vastly different in the hairstyles, facial features, and skin tone produced, regardless of how detailed I was in my prompts... Eventually, I embraced the idea that I could not make a similar video and focused on editing the Runway clip to sharpen the image further and adjust the hues.

Hailu is describing how she tried to work around the biases of AI through a variety of post-production techniques such as embracing a glitch aesthetic of distortion. While the character consistency problem is already starting to get resolved in newer models, it is nonetheless indicative of larger tensions in working with technical limitations and without human actors—how they require crafty workarounds, especially for addressing biased representations. Rather than exposing AI's flaws or dismissing its value altogether, Hailu iteratively and patiently resisted its discriminatory tendencies. She identified clever workarounds for building a world that defies Anglo-Eurocentric normativity and exclusion. Through this revitalizing process, Hailu created a liberatory lifeworld that actively reshapes who participates in AI film productions and how.

5 Discussion

So far our study has examined four critical approaches to AI filmmaking among amateurs in an underground context: minimization, maximization, compartmentalization, and revitalization. On their own, each approach differentially recalls connected lines of inquiry into other formations of digital system engagement. For example, the techniques of minimization and compartmentalization have echoes in design research programs associated with non-design [82, 87] and refusal [38]—traditions of curtailing the role of computational interventions. For the filmmakers above, these approaches play out with less concern for explicit value-based commitments and more attention to aesthetic possibility. With nuance and subtlety, the filmmakers foreground particular uses of computational reduction and bounding as a means of creative production. By contrast, maximization and revitalization techniques emerged as expansive interpretations of existing speculative traditions such as Afrofuturist design [28, 54], as well as specific tactics like “hypervisibility,” whereby artists excessively use problematic tools to make their harms extremely visible [6]. These approaches work to subvert and redefine aesthetic possibilities by reclaiming the tool. For filmmaking, we find a helpful distinction that emerges between absurdity in maximization (extreme or over-use of generative AI techniques) and sincerity in revitalization (creative envisioning of lifeworlds). This distinction expands conversations on emerging speculative AI traditions to consider aesthetic and affective aspects of algorithmic practice such as whimsy, tenderness, and surrealism.

We now turn to a reflection on the potential of AI filmmaking through amateur techniques and their implications for HCI scholars of critical and creative AI. We also reflect on amateur values such as resourcefulness, inventiveness, and non-commercial goals. How might an amateur orientation to generative AI cinema produce an underground AI cinema? We discuss how amateurism enables a particular criticality to AI; how generative cinema can subvert industry norms and reductive narratives of automation vs. augmentation; and how such critiques align with underground filmmaking practices to offer alternative modes of techno-cultural production.

5.1 Amateurism and Critical AI

As an orientation to resourcefulness and social transformation, amateurism broadly links to diverse areas of creative labor and performance, including illustration, creative writing, fabrication,

and many other non-capitalist modes of production that are grappling with what AI means for them. Amateur film more specifically encompasses a broad spectrum of proficiency across technical, narrative, and aesthetic components of filmmaking. Film scholars have historicized and theorized the significance of amateur film in terms of technological emergence, modes of production, institutionalization, distribution, aesthetics, and social critique. With such a broad analytic range, Zimmermann asserts that “amateur film cannot be fixed as an agent, event, or situation; it is simultaneously a discursive construct and a category of producers and productions” [103]. Taking a global comparative approach across different frameworks for film production, Salazkina and Fibla define amateur film capaciously as a “mode of cultural production in which a direct relationship between expressive practices and individual or collective experience replaces commercial goals, regardless of the ultimate objective” [88]. Against this cultural backdrop and history, our study shows how oppositional approaches to form and content emerge from amateur practices of AI filmmaking. In the film industry, AI has generated much concern among professionals, reacting adversely and striking against the looming harms [52]. Amid urgent needs for labor protection and harm reduction, there has yet to be much proactive exploration around the creative possibilities of AI that do not come at the price of filmmakers’ creative decision-making power or job security. Our study created time and space for amateurs to proactively experiment with generative models, developing techniques that begin to problematize the algorithmic narratives of efficiency and automation vs. augmentation [81].

Within this complicating work, and across the four distinct approaches, we saw a particular criticality emerge from amateurism. Criticality here worked not as absolute resistance to AI as a filmmaking medium, but instead as a means of reflexive engagement through the lens of “amateur vision” [32] in contrast to professional and managerial visions [33]. The filmmakers used amateur techniques to analyze and restrict existing tendencies toward extraction, automation, and circumvented control. This process introduced several potentialities for critique that provisionally trouble how the film industry is exploiting AI to monetize and market films [18, 74].

The amateur filmmaking processes in our study shed light on the inner workings and technical details of production, challenging a tendency for AI stories to spectacularize yet invisibilize the technology at the same time. As Kaila and colleagues find, what artists perceive as the “marketing spectacle” surrounding AI and the realities of it in practice rarely align [61]. Industrial firms focus on film in particular with an eye toward advertising the use of AI as a means of exploiting its novelty without revealing how it was used. For example, when asked what the heavily-marketed AI brings to his 2024 generative documentary film about musician Brian Eno, the director evaded the question by replying: “The system is bespoke. It’s a proprietary system... We have a patent pending for the system, and we just launched a startup...” [74]. This lack of transparency and hype-driven marketing in the film industry obscures what AI actually contributes to sell the illusion of a spectacular autonomous system, which cannot actually work without human labor. By contrast, our analysis exposes the reality of AI capabilities by tracing, examining, and theorizing how filmmakers can and cannot actually use it in practice. Our insights point to the potential for amateurism within and beyond filmmaking to help disrupt the AI marketing

spectacle in creative industries. We learn that amateurism can pave alternative paths for critical reflexive engagement that counter professionalized practices of concealment and control across sites of AI integration [62, 95], thereby broadening the cultural and political possibilities of generative cinema.

5.2 Generative Cinema as a Critical Technical Practice

Another critical register emerged not only from amateurism, but also the particular conditions that we created [42] to support generative filmmaking as a critical technical practice. In line with Malik et al. [65], and informed by adjacent methodological orientations [2, 54, 56], we saw how all four approaches invoked “an appreciation of the experiences that make extreme technical views seem so compelling” [p.368][65]. For the filmmakers, this appreciation involved developing a reflexive understanding of the “internal logic” [p.370][65] of generative AI, an awareness that emerged by working with and through the tools themselves. The conditions of the classroom study—our framing readings, discussions, prescient concerns for algorithmic control and data extraction—all supported the filmmakers in having a nuanced encounter with automated decision-making, one that was also inspired by histories of underground film and independent cinema.

With pastel colors, shaky cameras, non-linear storylines, and sometimes the low resolution of a line drawing, the AI films ran against the grain of the sleekness and sterility depicted in conventional speculative imagery. These twists of the subject matter into a medium, and of the medium into subject matter, recall a lineage of HCI design inquiry that contorts technical affordances toward generative critique. Consider, for example, Dunne and Raby’s concept of “design noir” that explores how design can provoke critical reflection on the consequences of technology by blending aesthetics from film noir with speculative design [31]. They design ordinary-looking objects with a twist (e.g., an armchair lined with a conductive metal mesh that protects against electromagnetic waves) to raise questions about privacy and technological impacts on the inner self and society. In our classroom study, a similar material inclination brought to light a certain hesitance, a tendency to linger too long and move too quickly, complicating a smooth transition or a clean and impervious result. When aesthetic convention took effect, the filmmakers wielded it with purpose, often using the figured eye of surveillance or a highly polished metal to absorb a challenge to the medium through the medium itself.

The hesitation and intentional imperfections in the AI films underscore that critical technical practice is not about producing smooth, polished works according to so-called professional standards of “high production value” [32]. Instead, it is about exploring tensions between creative control and mechanization to render social critique and intrigue. This approach to AI contrasts with prior work that has pursued tooling to help novice filmmakers adhere to cinematic conventions [24], rather than break the industry norms for other means. As opposed to only investigating how AI might make it easier for non-professionals to replicate “professional” standards, we encourage HCI scholars to further study alternative and resistant uses of AI. Our study not only challenges the use of AI for

automation, but also as a creativity support tool to augment and thus reproduce the hegemony of mainstream production systems.

5.3 The Question of an Underground Techno-Culture

Within filmmaking, the underground signals what MacDonald calls “powerful interruptions of what audiences had come to expect” [64], a kind of self-reflexive practice that yields critical postures toward audiovisual generation and, for our purposes, AI source materials. Film historians have traced genealogies of underground cinema based on localized screening practices [71] and medium-specific interventions [92], but anti-hegemonic forms and politics consistently inform underground film subcultures. Even as filmmakers began to affiliate their work with more specific movements such as Cinema of Transgression [102] or New Punk Cinema [86], the term underground continues to mobilize film communities around oppositional representational strategies. Underground filmmaking cultures embrace the creation of new subcultures through aligned ideological critiques, innovative uses of technology, and localized community impact. Given this backdrop, our study projects a dual encounter with AI tools through underground approaches.

On the one hand, the use of corporate AI tools raises concerns around the politics of ownership, marginalization of creative labor, and perpetuation of historically toxic and exclusionary techno-cultural environments. We learn that a key peril of an underground AI film culture stems from how proprietary corporate tools control the scope of representational possibilities. As our participants encountered, reliance on corporate infrastructures and opaque algorithms create power asymmetries that can undermine independent creative autonomy. The premise of an underground AI film culture is, to some extent, oxymoronic as its techno-politics might reinforce and reproduce the power structures that it seeks to subvert. Not to mention, the negative impacts of AI on artistic labor [52, 59] raise grave concerns about sustainability, equity, and justice [58]. Furthermore, Hassapopoulou warns against how “an algorithmic and computational approach to filmmaking undermines the traditions from which distinct and interrelated cinematic movements arise” [p.120][55] by potentially eroding the cultural specificity and collective dynamics that have historically shaped underground and avant-garde film communities. The unwieldy toxins of techno-cultural production [50], marked by issues of algorithmic bias, meritocracy, and structural inequality [76], further complicate the prospects of underground AI filmmaking cultures to generate liberatory futures.

On the other hand, our analysis suggests that an underground filmmaking culture might energize alternative AI use in ways that broaden the outcomes of its use. For instance, we see that it can spur amateur filmmakers to engage in critical technical practices that embrace the underground ethos of critique, innovation, and community to counter dominant narratives and representations. As such, underground AI filmmaking cultures might reconfigure entrenched power dynamics of creative industries. As demonstrated in films like Watkin’s that reflexively use AI as a colonial apparatus [96] to critique colonialism, potential exists for an underground AI film culture to engage in forms of “a film bynibalism” [26], where subversive modes of remix and appropriation operate from within

hegemonic systems to undermine those very systems. By reconfiguring the role of generative AI within the filmic apparatus, the filmmakers in our study show a capacity to reframe the politics of technological use and non-use, suggesting the possibility of more emancipatory approaches. Rather than simply rejecting automation, our findings indicate that underground AI filmmakers might extend and augment creative agencies with algorithmic engagements that expand access to a means of production.

6 Conclusion and Future Work

From our analysis of the 15 films, we see how amateurism brings a distinct, critical lens through which to engage with AI. Collectively, the films point to connections with histories of amateur filmmaking that emphasize the remix of found footage. In our study, both the algorithms and some filmmakers ‘found’ and remixed footage in the generation process. Consequently, our work suggests reexamining what it means to make and author films when a lion’s share of the script, sound, visual aesthetics, acting, costumers, and more come from external sources (algorithmic or otherwise). These external sources include found footage, community archives, and the like.

For HCI scholars, the use of found footage in our study suggests future pathways toward using AI not only to generate content that the system ‘finds,’ but also to analyze and remix historical or neglected footage as a means of media preservation. We find this possibility an exciting use case for AI filmmaking tools that might engage otherwise “orphaned” footage to support communal efforts in cultural connection. This form of AI engagement involves the inception of existing content and the work to sustain the life of something that can never be fully recovered [83]. Given added flexibility around effort and time, this concern suggests AI analysts consider how they might support the adaptation of AI capacities for working with “orphaned” and other found media that archives made possible with non-proprietary tools and university investments, and how creative communities get sustained amid those conditions. By focusing on the classroom and the complex negotiations between automation and augmentation, as well as use and non-use, our study provides a starting point for HCI scholars and practitioners to redefine the creative possibilities of generative cinema.

From this experimental glimpse, we offer neither a definitive account of amateur AI practices nor a comprehensive list of AI use and non-use tactics. Instead, what we find compelling to emphasize is what the conditions of our experimentation offer amateur filmmaking, particularly in terms of the kinds of experiences and reflections that the filmmakers had that might not have surfaced in other techno-cultural contexts. Indeed, we find four critical approaches to AI filmmaking: minimization, maximization, compartmentalization, and revitalization. Our analysis of each approach not only brings a provisional transparency to the trenchant opacity of algorithmic practices emerging in the film industry, but also begins to reveal what AI might generate when decision-making power around use and division of creative labor lies with the filmmakers themselves.

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References

- [1] Veronica Abebe, Gagik Amaryan, Marina Beshai, Ilene, Ali Ekin Gurgun, Wendy Ho, Naaji R Hylton, Daniel Kim, Christy Lee, Carina Lewandowski, et al. 2022. Anti-Racist HCI: notes on an emerging critical technical practice. In *CHI Conference on Human Factors in Computing Systems Extended Abstracts*. 1–12.
- [2] Philip E Agre. 2014. Toward a critical technical practice: Lessons learned in trying to reform AI. In *Social science, technical systems, and cooperative work*. Psychology Press, 131–157.
- [3] Morgan G Ames, Jeffrey Bardzell, Shaowen Bardzell, Silvia Lindtner, David A Mellis, and Daniela K Rosner. 2014. Making cultures: empowerment, participation, and democracy-or not? In *CHI'14 Extended Abstracts on Human Factors in Computing Systems*. 1087–1092.
- [4] Steven Ascher and Edward Pincus. 2007. *The filmmaker's handbook: A comprehensive guide for the digital age*. Penguin.
- [5] Matthew P Aylett, Lisa Thomas, David P Green, David A Shamma, Pam Briggs, and Finola Kerrigan. 2016. My life on film. In *Proceedings of the 2016 CHI Conference Extended Abstracts on Human Factors in Computing Systems*. 3379–3386.
- [6] Saúl Baeza Argüello, Ron Wakkary, Kristina Andersen, and Oscar Tomico. 2023. About being an “influencer” or how to exploit the tool of the oppressor for our own expression. In *Proceedings of the 2023 ACM Designing Interactive Systems Conference*. 934–945.
- [7] William Bares and Donald Schwartz. 2016. Film ties: crowd-sourced teaching of cinematography using intelligent example galleries. In *Proceedings of the 19th ACM Conference on Computer Supported Cooperative Work and Social Computing Companion*. 229–232.
- [8] Tom Bartindale, Guy Schofield, and Peter Wright. 2016. Scaffolding community documentary film making using commissioning templates. In *proceedings of the 2016 CHI Conference on Human Factors in Computing Systems*. 2705–2716.
- [9] Raymond Bellour. 2000. *The analysis of film*. Indiana University Press.
- [10] Stefano Bocconi, Frank Nack, and Lynda Hardman. 2005. Vox populi: a tool for automatically generating video documentaries. In *Proceedings of the sixteenth ACM conference on Hypertext and hypermedia*. 292–294.
- [11] David Bordwell, Kristin Thompson, and Jeff Smith. 2010. *Film art: An introduction*. Vol. 7. McGraw-Hill New York.
- [12] Kirsten Bray and Christina Harrington. 2021. Speculative blackness: considering Afrofuturism in the creation of inclusive speculative design probes. In *Proceedings of the 2021 ACM Designing Interactive Systems Conference*. 1793–1806.
- [13] Pam Briggs, Mark Blythe, John Vines, Stephen Lindsay, Paul Dunphy, James Nicholson, David Green, Jim Kitson, Andrew Monk, and Patrick Olivier. 2012. Invisible design: exploring insights and ideas through ambiguous film scenarios. In *Proceedings of the Designing Interactive Systems Conference*. 534–543.
- [14] Pamela Briggs, Patrick Olivier, and Jim Kitson. 2009. Film as invisible design: the example of the biometric daemon. In *CHI'09 Extended Abstracts on Human Factors in Computing Systems*. 3511–3512.
- [15] Pamela Briggs and Patrick L Olivier. 2008. Biometric daemons: authentication via electronic pets. In *CHI'08 extended abstracts on Human factors in computing systems*. 2423–2432.
- [16] Leah Buechley, Daniela K Rosner, Eric Paulos, and Amanda Williams. 2009. DIY for CHI: methods, communities, and values of reuse and customization. In *CHI'09 Extended Abstracts on Human Factors in Computing Systems*. 4823–4826.
- [17] Eva Cetinic and James She. 2022. Understanding and creating art with AI: Review and outlook. *ACM Transactions on Multimedia Computing, Communications, and Applications (TOMM)* 18, 2 (2022), 1–22.
- [18] Pei-Sze Chow. 2020. Ghost in the (Hollywood) machine: Emergent applications of artificial intelligence in the film industry. *NECSUS_European Journal of Media Studies* 9, 1 (2020), 193–214.
- [19] John Joon Young Chung, Shiqing He, and Eytan Adar. 2022. Artist support networks: Implications for future creativity support tools. In *Proceedings of the 2022 ACM Designing Interactive Systems Conference*. 232–246.
- [20] Simon Colton, Ramon López De Mántaras, and Oliviero Stock. 2009. Computational creativity: Coming of age. *AI Magazine* 30, 3 (2009), 11–11.
- [21] Kate Compton and Michael Mateas. 2015. Casual Creators. In *ICCC*. 228–235.
- [22] Michael Crichton. 1973. Westworld.
- [23] Nicholas Davis, Chih-Pin Hsiao, Kunwar Yashraj Singh, Lisa Li, Sanat Moningi, and Brian Magerko. 2015. Drawing apprentice: An enactive co-creative agent for artistic collaboration. In *Proceedings of the 2015 ACM SIGCHI Conference on Creativity and Cognition*. 185–186.

- [24] Nicholas Davis, Alexander Zook, Brian O'Neill, Brandon Headrick, Mark Riedl, Ashton Grosz, and Michael Nitsche. 2013. Creativity support for novice digital filmmaking. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*. 651–660.
- [25] Stephen Boyd Davis and Magnus Moar. 2005. The amateur creator. In *Proceedings of the 5th Conference on Creativity & Cognition*. 158–165.
- [26] Oswald De Andrade. 1999. Manifesto antropófago. *Nuevo Texto Crítico* 12, 1 (1999), 25–31.
- [27] Audrey Desjardins, Afroditi Psarra, and Bonnie A. Whiting. 2021. Voices and voids: Subverting voice assistant systems through performative experiments. In *Proceedings of the 13th Conference on Creativity and Cognition*. 1–10.
- [28] Tawanna R Dillahunt, Alex Jiahong Lu, and Joanna Velazquez. 2023. Eliciting alternative economic futures with working-class detroiters: Centering afrofuturism in speculative design. In *Proceedings of the 2023 ACM Designing Interactive Systems Conference*. 957–977.
- [29] Stephanie Dinkins. [n. d.]. *Eliminating Biases in AI*. <https://prophetsofai.com/speakers/stephanie-dinkins>
- [30] Stephanie Dinkins. 2018. *Not the Only One V1. Beta 2*. <https://www.stephaniedinkins.com/ntoo.html>
- [31] Anthony Dunne and Fiona Raby. 2001. *Design noir: The secret life of electronic objects*. Springer Science & Business Media.
- [32] Arvid Engström, Mark Perry, and Oskar Juhlin. 2012. Amateur vision and recreational orientation: Creating live video together. In *Proceedings of the ACM 2012 conference on Computer Supported Cooperative Work*. 651–660.
- [33] Sarah E Fox, Kiley Sobel, and Daniela K Rosner. 2019. Managerial Visions: stories of upgrading and maintaining the public restroom with IoT. In *Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems*. 1–15.
- [34] Dustin Freeman, Stephanie Santosa, Fanny Chevalier, Ravin Balakrishnan, and Karan Singh. 2014. LACES: live authoring through compositing and editing of streaming video. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*. 1207–1216.
- [35] Paulo Freire. 1970. Pedagogy of the oppressed (MB Ramos, Trans.). *New York: Continuum* 2007 (1970).
- [36] Jonas Frich, Lindsay MacDonald Vermeulen, Christian Remy, Michael Mose Biskjaer, and Peter Dalsgaard. 2019. Mapping the landscape of creativity support tools in HCI. In *Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems*. 1–18.
- [37] Pietro Gagliano, Casey Blustein, and David Oppenheim. 2021. Agence, a dynamic film about (and with) artificial intelligence. In *ACM SIGGRAPH 2021 Immersive Pavilion*. 1–2.
- [38] Patricia Garcia, Tonia Sutherland, Marika Cifor, Anita Say Chan, Lauren Klein, Catherine D'Ignazio, and Niloufar Salehi. 2020. No: Critical refusal as feminist data practice. In *Companion Publication of the 2020 Conference on Computer Supported Cooperative Work and Social Computing*. 199–202.
- [39] David Green, Clara Crivellaro, and Jimmy Tidey. 2015. Interactive design documentary as a method for civic engagement. In *Proceedings of the ACM international conference on interactive experiences for TV and online video*. 161–166.
- [40] David Philip Green, Simon Bowen, Jonathan Hook, and Peter Wright. 2017. Enabling Polyvocality in Interactive Documentaries through "Structural Participation". In *Proceedings of the 2017 CHI conference on human factors in computing systems*. 6317–6329.
- [41] David Philip Green, Simon J Bowen, Christopher Newell, Guy Schofield, Tom Bartindale, Clara Crivellaro, Alia Sheikh, Peter Wright, and Patrick Olivier. 2015. Beyond participatory production: digitally supporting grassroots documentary. In *Proceedings of the 33rd Annual ACM Conference on Human Factors in Computing Systems*. 3157–3166.
- [42] David Philip Green, Guy Schofield, Gary Pritchard, Patrick Olivier, and Peter Wright. 2017. Cinehacking cape town-embracing informality in pursuit of high quality media. In *Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems*. 4753–4764.
- [43] Daniel Gregory and Diego Monteiro. 2023. Is this the real life? Investigating the credibility of synthesized faces and voices created by amateurs using artificial intelligence tools.. In *Proceedings of the 2023 ACM International Conference on Interactive Media Experiences Workshops*. 118–122.
- [44] Jinlin Guo, Cathal Gurrin, and Songyang Lao. 2013. Who produced this video, amateur or professional?. In *Proceedings of the 3rd ACM conference on International conference on multimedia retrieval*. 271–278.
- [45] Brett A Halperin. 2022. Airbrush hyperfabric: designing interactive storytelling fabric connected to motion graphics and music. *Interactions* 29, 3 (2022), 8–9.
- [46] Brett A Halperin, Gary Hsieh, Erin McElroy, James Pierce, and Daniela K Rosner. 2023. Probing a Community-Based Conversational Storytelling Agent to Document Digital Stories of Housing Insecurity. In *Proceedings of the 2023 CHI Conference on Human Factors in Computing Systems*. 1–18.
- [47] Brett A Halperin, Mirabelle Jones, and Daniela K Rosner. 2023. Haunted Aesthetics and Otherworldly Possibilities: Generating (Dis) embodied Performance Videos with AI. (2023).
- [48] Brett A Halperin and Stephanie M Lukin. 2023. Envisioning Narrative Intelligence: A Creative Visual Storytelling Anthology. In *Proceedings of the 2023 CHI Conference on Human Factors in Computing Systems*. 1–21.
- [49] Brett A. Halperin and Stephanie M. Lukin. 2024. Artificial Dreams: Surreal Visual Storytelling as Inquiry Into AI 'Hallucination'. In *Designing Interactive Systems Conference (DIS '24)* (IT University of Copenhagen, Denmark). ACM, New York, NY, USA, 19. <https://doi.org/10.1145/3643834.3660685>
- [50] Brett A Halperin and Erin McElroy. 2023. Temporal Tensions in Digital Story Mapping for Housing Justice: Rethinking Time and Technology in Community-Based Design. In *Designing Interactive Systems Conference (Pittsburgh, Pennsylvania)(DIS'23)*. Association for Computing Machinery, New York, NY, USA. <https://doi.org/10.1145/3563657.3596088>.
- [51] Brett A. Halperin, William Rhodes, Kai Leshne, Afroditi Psarra, and Daniela K. Rosner. 2024. Resistive Threads: Electronic Streetwear as Social Movement Material. In *Designing Interactive Systems Conference (DIS '24)* (IT University of Copenhagen, Denmark). ACM, New York, NY, USA, 17.
- [52] Brett A. Halperin and Daniela K. Rosner. 2025. 'AI is Soulless': Hollywood Film Workers Strike and Emerging Perceptions of Generative Cinema. *ACM Trans. Comput.-Hum. Interact.* (Feb. 2025). <https://doi.org/10.1145/3716135> Just Accepted.
- [53] Ellie Harmon, Chris Bopp, and Amy Voida. 2017. The design fictions of philanthropic IT: Stuck between an imperfect present and an impossible future. In *Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems*. 7015–7028.
- [54] Christina N Harrington, Shamika Klassen, and Yolanda A Rankin. 2022. "All that You Touch, You Change": Expanding the Canon of Speculative Design Towards Black Futuring. In *Proceedings of the 2022 CHI Conference on Human Factors in Computing Systems*. 1–10.
- [55] Marina Hassapopoulou. 2024. *Interactive Cinema: The Ambiguous Ethics of Media Participation*. Vol. 63. U of Minnesota Press.
- [56] Kristina Hook. 2018. *Designing with the body: Somaesthetic interaction design*. MIT Press.
- [57] Seray B Ibrahim, Asimina Vasalou, and Michael Clarke. 2020. Can design documentaries disrupt design for disability?. In *Proceedings of the interaction design and children conference*. 96–107.
- [58] Petra Jääskeläinen, Daniel Pargman, and André Holzapfel. 2022. On the environmental sustainability of AI art (s). In *Eighth workshop on computing within limits*. 1–9.
- [59] 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*. 363–374.
- [60] P. Jääskeläinen, A.-K. Kaila, and A. Holzapfel. 2024. Uncovering Challenges and Changes in Artists' Practices as a Consequence of AI. In *Workshop Proceedings of GenAI/CHI - CHI 2024 Workshop on Generative AI and HCI*.
- [61] Anna-Kaisa Kaila, André Holzapfel, and Petra Jääskeläinen. 2024. Gardening Frictions in Creative AI: Emerging Art Practices and Their Design Implications. In *15th International Conference on Computational Creativity*.
- [62] Esther Y Kang and Sarah E Fox. 2022. Stories from the Frontline: Recuperating Essential Worker Accounts of AI Integration. In *Designing Interactive Systems Conference*. 58–70.
- [63] Joakim Karlsen and Anders Sundnes Løvlie. 2017. 'You can dance your prototype if you like': independent filmmakers adapting the hackathon. *Digital Creativity* 28, 3 (2017), 224–239.
- [64] Scott MacDonald. 1988. *A Critical Cinema: Interviews with Independent Filmmakers*. University of California Press, Berkeley.
- [65] Maya Malik and Momin M Malik. 2021. Critical technical awakenings. *Journal of Social Computing* 2, 4 (2021), 365–384.
- [66] Lev Manovich. 2013. *Software takes command*. Bloomsbury Academic.
- [67] Lev Manovich. 2018. *AI aesthetics*. Strelka Press Moscow.
- [68] Lev Manovich. 2023. AI Image Media through the Lens of Art and Media History. *IMAGE* 37, 1 (2023), 34–41.
- [69] Michael Mateas. 2001. Expressive AI: A hybrid art and science practice. *Leonardo* 34, 2 (2001), 147–153.
- [70] Michael Mateas and Andrew Stern. 2003. Façade: An experiment in building a fully-realized interactive drama. In *Game developers conference*, Vol. 2. Citeseer, 4–8.
- [71] Xavier Mendik, Steven Jay Schneider, and David Kaufman (Eds.). 2003. *Underground USA: Filmmaking Beyond the Hollywood Canon*. Wallflower Press, London.
- [72] Christian Metz. 1991. *Film language: A semiotics of the cinema*. University of Chicago Press.
- [73] James Monaco. 2000. *How to read a film: the world of movies, media, and multi-media: language, history, theory*. Oxford University Press, USA.
- [74] Kevin Nguyen. 2024. The Making of Eno, the First Generative Feature Film. *The Verge* (13 July 2024). <https://www.theverge.com/24197153/eno-documentary-generative-film-gary-hustwit-interview>

- [75] Molly Jane Nicholas, Stephanie Claudino Daffara, and Eric Paulos. 2021. Expanding the Design Space for Technology-Mediated Theatre Experiences. In *Designing Interactive Systems Conference 2021*. 2026–2038.
- [76] Safiya Umoja Noble and Sarah Roberts. 2019. *Technological elites, the meritocracy, and postracial myths in Silicon Valley*. eScholarship, University of California.
- [77] Wyatt Olson, Freesoul El Shabazz-Thompson, Melanie Wells, Janey Yee, Julia R Saimo, Bill Xiong, Brock Craft, and Audrey Desjardins. 2023. Exposing Tensions in Documentary Filmmaking for Design Research: The Inner Ear Shorts. In *Companion Publication of the 2023 ACM Designing Interactive Systems Conference (Pittsburgh, PA, USA) (DIS '23 Companion)*. Association for Computing Machinery, New York, NY, USA, 198–202. <https://doi.org/10.1145/3563703.3596633>
- [78] Doenja Oogjes, Meghann O'Brien, Hannah Turner, Kate Hennessy, Reese Muntean, and Melanie Camman. 2023. Transmediating Sky Blanket: tensions with a digital jacquard loom. In *Proceedings of the 2023 ACM Designing Interactive Systems Conference*. 371–386.
- [79] Doenja Oogjes and Ron Wakkary. 2017. Videos of things: Speculating on, anticipating and synthesizing technological mediations. In *Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems*. 4489–4500.
- [80] Doenja Oogjes and Ron Wakkary. 2017. Videos of things: the other half. In *Proceedings of the 2017 CHI Conference Extended Abstracts on Human Factors in Computing Systems*. 464–464.
- [81] Anette CM Petersen, Marisa Leavitt Cohn, Thomas T. Hildebrandt, and Naja Holten Møller. 2021. 'Thinking Problematically' as a Resource for AI Design in Politicised Contexts. In *Proceedings of the 14th Biannual Conference of the Italian SIGCHI Chapter*. 1–8.
- [82] James Pierce. 2012. Undesigning technology: considering the negation of design by design. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*. 957–966.
- [83] Rick Prelinger. 2007. Archives and Access in the 21st Century. *Cinema Journal* 46, 3 (2007), 114–118.
- [84] T. Cole Rachel. 2017. *Jim Jarmusch on Not Wasting Time*. <https://thecreativeindependent.com/people/jim-jarmusch-on-not-wasting-time/#:~:text=I'm%20not%20a%20professional,word%20E2%80%9Cartist%E2%80%9D%20for%20myself>.
- [85] Yuanyang Ren, Aswath Sivakumaran, Emma Niemelä, and Petra Jääskeläinen. 2023. How to Make AI Artists Feel Guilty in a Good Way? Designing Integrated Sustainability Reflection Tools (SRTs) for Visual Generative AI. In *International Conference on Computational Creativity*. 1–5.
- [86] Nicholas Rombes. 2005. Sincerity and Irony. *New punk cinema* (2005), 72–85.
- [87] Daniela K Rosner. 2018. *Critical fabulations: Reworking the methods and margins of design*. MIT Press.
- [88] Masha Salazkina and Enrique Fibla. 2021. *Global perspectives on amateur film histories and cultures*. Indiana University Press.
- [89] Dominik Schörkhuber, Florian Seitner, Benedikt Salzbrunn, Margrit Gelautz, and Georg Braun. 2017. Intelligent film assistant for personalized video creation on mobile devices. In *Proceedings of the 15th International Conference on Advances in Mobile Computing & Multimedia*. 210–215.
- [90] Rod Selfridge and Sandra Pauletto. 2022. Investigating the sound design process: two case studies from radio and film production. In *Design Research Society Conference Bilbao, Spain, in the summer of 2022*.
- [91] Phoebe Sengers, Kirsten Boehner, Shay David, and Joseph 'Jofish' Kaye. 2005. Reflective design. In *Proceedings of the 4th decennial conference on Critical computing: between sense and sensibility*. 49–58.
- [92] P. Adams Sitney. 1974. *Visionary Film: The American Avant-Garde, 1943-1978*. Oxford University Press, New York.
- [93] Davy Smith, Jonathan Hook, Guy Schofield, Marian F Ursu, Tom Bartindale, Gerard Wilkinson, Phil Stenton, and Matthew Brooks. 2017. Designing reconfigurable televisual experiences. In *Proceedings of the 2017 ACM Conference Companion Publication on Designing Interactive Systems*. 368–371.
- [94] John R Smith, Dhiraj Joshi, Benoit Huet, Winston Hsu, and Jozef Cota. 2017. Harnessing ai for augmenting creativity: Application to movie trailer creation. In *Proceedings of the 25th ACM international conference on Multimedia*. 1799–1808.
- [95] Franchesca Spektor, Estefania Rodriguez, Samantha Shorey, and Sarah Fox. 2021. Discarded Labor: Countervisualities for Representing AI Integration in Essential Work. In *Proceedings of the 2021 ACM Designing Interactive Systems Conference*. 406–419.
- [96] Jasmina Tacheva and Srividya Ramasubramanian. 2023. AI Empire: Unraveling the interlocking systems of oppression in generative AI's global order. *Big Data & Society* 10, 2 (2023), 20539517231219241.
- [97] Parker Tyler. 1969. *Underground Film: A Critical History*. Grove Press, New York.
- [98] Delvin Varghese, Patrick Olivier, Tom Bartindale, and Matt Baillie Smith. 2020. Towards participatory video 2.0. In *Proceedings of the 2020 CHI conference on human factors in computing systems*. 1–13.
- [99] Noah Wardrip-Fruin. 2009. *Expressive Processing: Digital fictions, computer games, and software studies*. MIT press.
- [100] Amanda Wasielewski. 2023. "Midjourney Can't Count": Questions of Representation and Meaning for Text-to-Image Generators. *The Interdisciplinary Journal of Image Sciences* 37, 1 (2023), 71–82.
- [101] Yale University. [n. d.]. Yale Film Analysis. <https://filmanalysis.yale.edu/>
- [102] Nick Zedd. 1985. *The Cinema of Transgression Manifesto*. Self-published.
- [103] Patricia R Zimmermann. 1995. *Reel families: A social history of amateur film*. Indiana University Press.