A Structural Plan for Imitation: Engines of Differentiation

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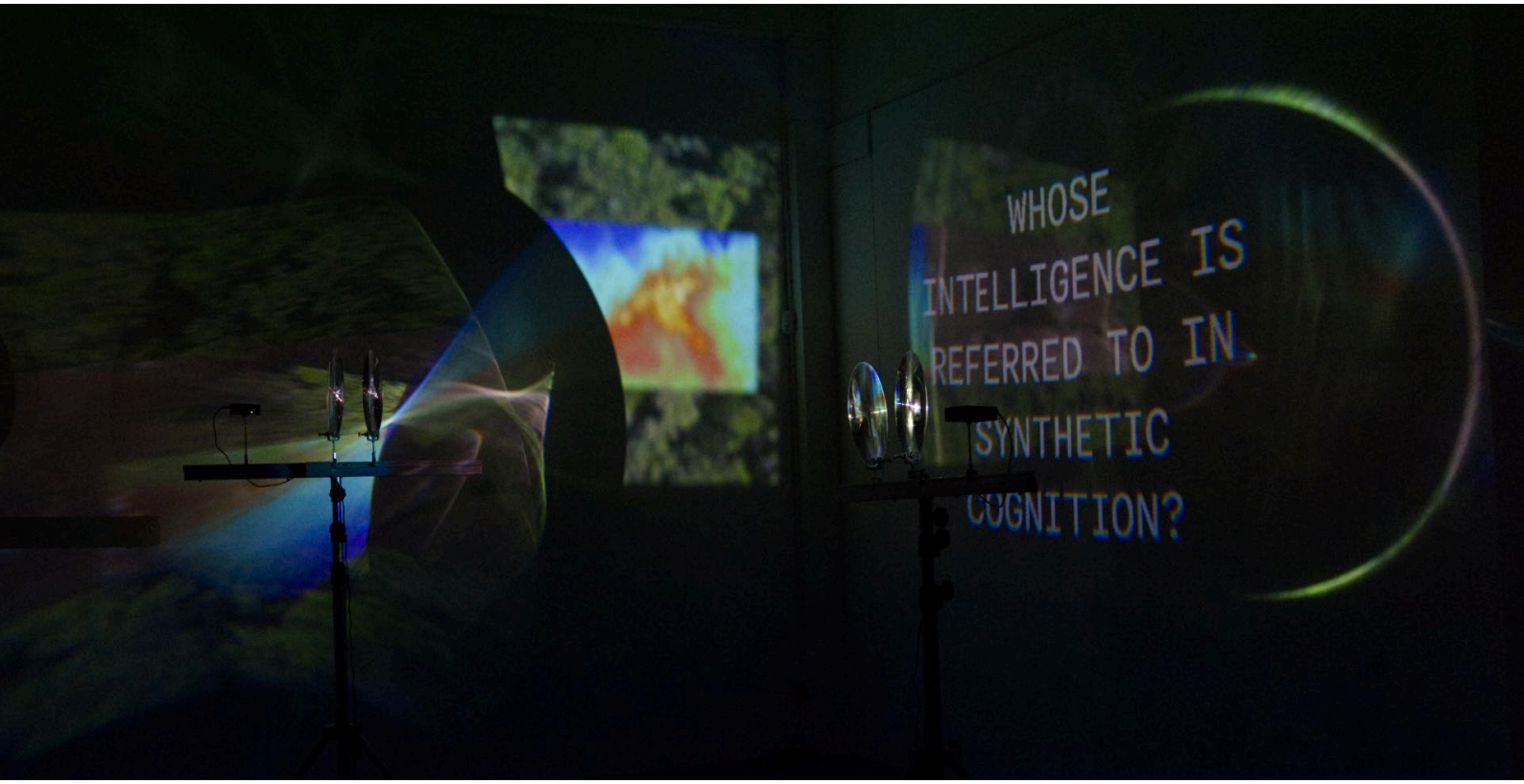

This paper presents and reflects upon the project *A Structural Plan for Imitation: Engines of Differentiation*, a sculptural video installation exploring the implications of artificial intelligence (AI). Distorting video projections through a series of fresnel lenses, the work addresses the potential for the warping of reality through machine learning (ML) systems due to an internal logic that emphasizes difference. The dispersed visuality of AI (Dvořák and Parikka 2021) has recently been explored by many artists (Zylinska 2020) and theorists (Crawford 2021) from various different angles. Not only do we have little access to the processes of interpretation that go on between the input and output of complex algorithmic systems, it's also difficult to directly represent their impacts. While projecting conceptualizations of AI as a technology of hyper-abundance – both feeding off of immense amounts of existing visual data and producing more of it – it also draws our attention to AI's overconsumption and inequitable distribution of precious resources. By drawing visual material from ML training datasets, as well as documentation about their material infrastructure, the project reflects on difficulties in articulating the expansive scale on which these systems function.

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Introduction

A Structural Plan for Imitation: Engines of Differentiation is a sculptural video installation where warped visualizations reflect on similar processes that occur through machine interpretation in artificial intelligence (AI). The project questions how value systems embedded in AI systems lend themselves to the cultivation of difference, from the logic of mathematically discerning one from other using machine learning (ML) to the large-scale societal implications of applying such statistical models to the world. In this two-channel video installation, digital projections exploring the hyper-visuality of AI imagery are distorted through a series of fresnel lenses. Applying strategies of *détournement* (Debord and Wolman 1956) to the images behind the images, and machine learning training datasets, the piece brings viewers into the complex relationships AI creates between the visual and nonvisual, data and images. Re-appropriating images from ML training datasets and considering them more closely as well as visually distorting them seeks to explore the layers of interpretation, reinterpretation, and, potentially, misinterpretation that occur within AI systems.

Background

The growing prevalence of computational media (Carvalhais 2022) has reshaped visual culture in ways that many artists, theorists, engineers, and the public have struggled to make sense of (Zylinska 2020; Dvořák and Parikka 2021; Crawford 2021). Within this shift, new technical capacities of generative AI systems confront us with so much visual data that it's beyond our human capacity to look at it all. Not only have ML systems consumed virtually the entire contents of the existing internet, but they also increasingly run on amassed generated content, often filled with bias and errors (Bender et al. 2021). The use of AI to create images also entails highly problematic issues on many levels, from procurement to labelling, analysis, and recirculation of visual data, often with little regard for the ethical impact the technology may have. As Matteo Pasquinelli points out, AI as we know it now emerged out of the aim to "mechanise the mental labour of clerks rather than the old alchemic dream of building thinking automata" (2023, 52). With this in mind, not only can we not take the claims of technology corporations at face value, but we are reminded that often the same applies to the forms of media that are implicated in the deployment of AI. The project seeks to bring viewers into that conversation by presenting them with visual data from various stages of processing through ML, accompanied by text and audio discussing the complexity of this topic.

Fig. 1. Installation view. Photo: Nikos Avraamides, 2024.

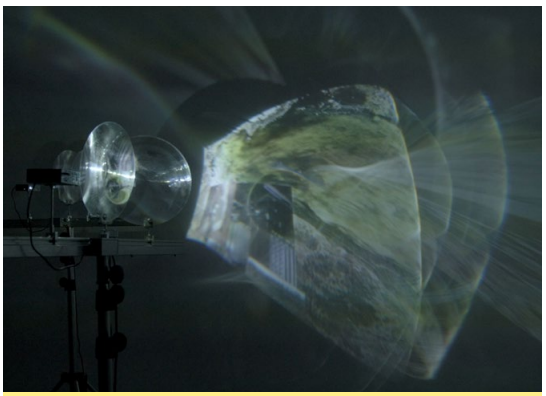

Fig. 2. Installation view. Photo: Nikos Avraamides, 2024.

Fig. 3. Detail view of projection through lenses. Photo: Nikos Avraamides, 2024.

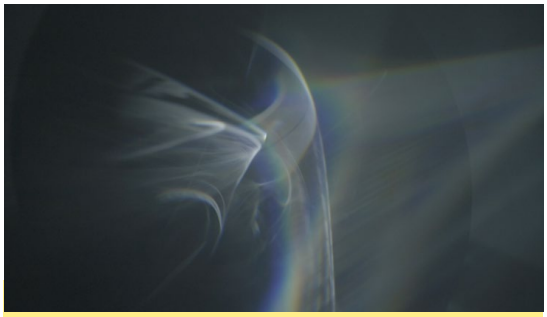

Fig. 4. Detail view of distorted projection. Photo: Nikos Avraamides, 2024.

Installation

Fig. 5. Video documentation of the work.

In this work, a flood of visual information is fed through apparatuses that enlarge and distort what viewers see within the surrounding space. At various times, one can make out glimpses of coherent images: faces from biometric imaging databases; ordinary objects and animals; aerial surveillance footage – the likes of which are used to train many computer vision systems. These are combined with images situating artificial intelligence, historically and materially, drawing from the prehistory of artificial intelligence – when supercomputers were needed to process even simple inputs and long before the idea of computers creating realistic, photographic images became commonplace – as well as documenting its resource-intensiveness: devouring not only data but also energy and precious minerals.

In the accompanying narration in the work, a voiceover addresses the circularity of this topic: how foundational aspects of the technology may make it difficult or even impossible to subvert its divisive tendencies. For example, in certain respects, generated visual media defies prior conceptualizations and calls for new perspectives to address its intricacies, but this requires a familiarity with the history of algorithmic media (Lee 2024) to inform approaches that meaningfully depart from the past.

Rather than attempting to present a coherent position on the topic of AI imagery, this work explores the numerous perspectives and issues that converge in its complex processes and surrounding discourses, including its capacity for self-contradiction. In this respect, the project drew inspiration from Raoul Vaneigem's statement that "there is no weapon of your individual will which, once appropriated by others, does not turn against you" (1967, 9). This idea, informed by the situationist approach of *détournement* highlights both the difficulty of attempting to find ethical inroads into this topic, as well as offering an opening to subvert AI's potentially harmful aspects to turn the technology against itself. By reversing our view of the technology, we may gain a better understanding of ways forward that are informed – rather than hindered – by its vulnerabilities.

Conclusion

As we struggle to come to terms with artificial intelligence's affordances and perils, it is especially relevant to consider to what extent these methods and their outputs may entail nuances that distort the reality at hand. *A Structural Plan for Imitation: Engines of Differentiation* enquires into discrepancies between the promises made about artificial intelligence and the realities of how it materially acts on the world by

looking into what lies below the surface of generated images. With the current emphasis on methodologies that rely heavily on ML models, it's crucial to examine the assumptions, power dynamics, and ideologies embedded in AI systems and how they may distort perspectives on many aspects of this topic. The project delves into this idea by looking closely at models' structuring of relationships between visual perception, real-world phenomena, and the traditional systems of value that have culminated in the present pervasiveness of artificial intelligence.

Project page:
emare.eu/works/a-structural-plan-for-imitation-2024

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