5AM

10AM in London (GMT), 7PM in Tokyo (GMT+9)

3rd.1: Responsibility: Visualizing AI for Google DeepMind

Moderator: Todd N. Theriault, *Indiana University*

Panelist:

- Aurora Mititelu, *Social Software Research Lab, UCLA, Los Angeles, California*

ENVISIONING INTELLIGENCES

Aurora Mititelu

Dec 14, 2025

Aurora Mititelu

Computational Systems as Artistic Material

24h Envisioning Intelligences Event

Talk Overview

→ Art Practice: *Computational Systems as Artistic Material*

→ Project 1: *Visualising AI: Responsibility for Google DeepMind*

→ Project 2: *Abel & I*

→ Circulation, Impact

Who I am

I am a Romanian artist based between Los Angeles and Bucharest. I work with computer-generated images, 3D simulations, AI, and physical installations to investigate how computational media constructs contemporary reality and structures society.

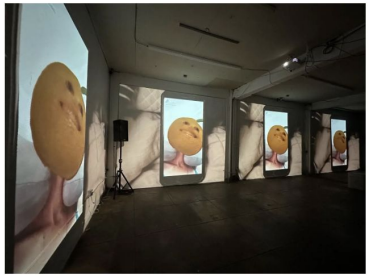
I hold an MFA in Media Arts from UCLA and I'm a Fulbright grantee. I coordinate the Social Software research lab, where I direct the AI, Code & Art Summer Institute, and I'm currently a member of the Y12 Art & Code cohort at NEW INC, the New Museum's cultural incubator in New York.

Social Software

Research lab hosted in the Design | Media Arts department at UCLA, directed by Lauren Lee McCarthy and Casey Reas that examines the social impacts and possibilities of making with software.

Current focus areas include accessible technology, open source communities, AI, data, and generative systems.

Hosts the AI, Code & Art Summer Institute.



Megan May Daalder, Teenage Mutiny UWS at Mirror Launch. Photo credit: Spectra Studio

Edgar Fabián Frías, performing during A Full Room, a happening inside An Empty Room, an installation by Casey REAS at LACMA, commissioned for Coded: Art Enters the Computer Age, 1952-1982. Photo credit: Gabriel Noguez

Nat Decker presents a workshop on alt-text at Mirror Site. Photo credit: Charles Powers

Mirror Site: Art and the Internet in LA. Photo credit: Charles Powers

https://dma.ucla.edu/initiatives/social-software

Computational technology as system that structures reality:

- Social: communication, labor, governance
- Personal: desire, intimacy, self-image

https://lauren-mccarthy.com/LAUREN

Harold Cohen - Aaron

Media art as a way to embody the cultural moment.

https://jonrafman.com

https://www.lawrencelek.com/works/black-cloud

Method:

- I work with systems as material:
    - software, hardware, conceptual systems
- I often enter into relationships with them
- I materialize abstract processes

Project 1:
Visualising AI

Computational technology as system that structures reality:

- **Social: communication, labor, governance**
- Personal: desire, intimacy, self-image

What is Visualising AI?

Visualising AI is a **Google DeepMind** initiative that aims to open up conversations around AI and make it more accessible to the general public by commissioning artists to create open-source imagery. The collection includes 3D works by world-class creators, exploring the roles and responsibilities of AI's impact on society, from robotics and neuroscience to ethics and safety.

What is Visualising AI?

Popular culture often associates AI with dystopian narratives that exclude the realistic risks and potential rewards of the technology. Visualising AI began as an effort to redress this by commissioning artists to create imagery representing a more multi-dimensional picture of how AI can impact society.

OUR ARTISTS

Ariel Lu

Aurora Mititelu

Bakken & Baeck

Champ Panupong Techawongthawon

Dada Projects

Domhnall Malone

Jesper Lindborg

Khyati Trehan

Visualising AI: **Human Responsibility**

Artist & Scientist Pairs:

Will Hawkins
Responsibility Product Management Lead
at Google DeepMind

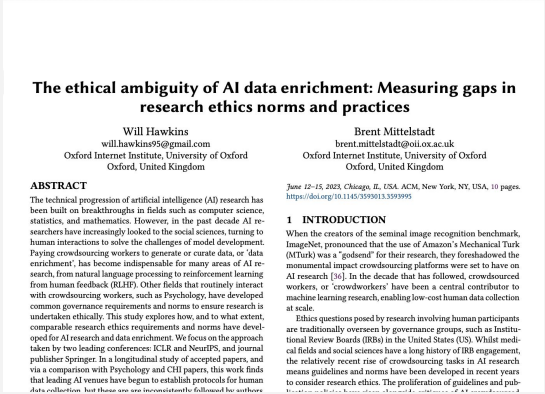
Research:

→ Responsibility & Data Governance

→ Google AI Principles

→ AI Data Enrichment

& Human Component



The ethical ambiguity of AI data enrichment: Measuring gaps in research ethics norms and practices

Will Hawkins
will.hawkins95@gmail.com
Oxford Internet Institute, University of Oxford
Oxford, United Kingdom

Brent Mittelstadt
brent.mittelstadt@oii.ox.ac.uk
Oxford Internet Institute, University of Oxford
Oxford, United Kingdom

ABSTRACT

The technical progression of artificial intelligence (AI) research has been built on breakthroughs in fields such as computer science, statistics, and mathematics. However, in the past decade AI researchers have increasingly looked to the social sciences, turning to human interactions to solve the challenges of model development. Paying crowdsourcing workers to generate or curate data, or 'data enrichment', has become indispensable for many areas of AI research, from natural language processing to reinforcement learning from human feedback (RLHF). Other fields that routinely interact with crowdsourcing workers, such as Psychology, have developed common governance requirements and norms to ensure research is undertaken ethically. This study explores how, and to what extent, comparable research ethics requirements and norms have developed for AI research and data enrichment. We focus on the approach taken by two leading conferences: ICLR and NeurIPS, and journal publisher Springer. In a longitudinal study of accepted papers, and via a comparison with Psychology and CHI papers, this work finds that leading AI venues have begun to establish protocols for human data collection, but these are inconsistently followed by authors

June 12–15, 2023, Chicago, IL, USA. ACM, New York, NY, USA, 10 pages.
https://doi.org/10.1145/3593013.3593995

1 INTRODUCTION

When the creators of the seminal image recognition benchmark, ImageNet, pronounced that the use of Amazon's Mechanical Turk (MTurk) was a "godsend" for their research, they foreshadowed the monumental impact crowdsourcing platforms were set to have on AI research [36]. In the decade that has followed, crowdsourced workers, or 'crowdworkers' have been a central contributor to machine learning research, enabling low-cost human data collection at scale.

Ethics questions posed by research involving human participants are traditionally overseen by governance groups, such as Institutional Review Boards (IRBs) in the United States (US). Whilst medical fields and social sciences have a long history of IRB engagement, the relatively recent rise of crowdsourcing tasks in AI research means guidelines and norms have been developed in recent years to consider research ethics. The proliferation of guidelines and pub-

Google DeepMind

arxiv.org/abs/123
2000-01-01

Sociotechnical Safety Evaluation of Generative AI Systems

Laura Weidinger[1], Maribeth Rauh[1], Nahema Marchal[1], Arianna Manzini[1], Lisa Anne Hendricks[1], Juan Mateos-Garcia[1], Stevie Bergman[1], Jackie Kay[1], Conor Griffin[1], Ben Bariach[1], Iason Gabriel[1], Verena Rieser[1] and William Isaac[1]
[1]Google DeepMind, London N1C 4DN, United Kingdom

Generative AI systems produce a range of risks. To ensure the safety of generative AI systems, these risks must be evaluated. In this paper, we make two main contributions toward establishing such evaluations. First, we propose a three-layered framework that takes a structured, sociotechnical approach to evaluating these risks. This framework encompasses capability evaluations, which are the main current approach to safety evaluation. It then reaches further by building on system safety principles, particularly the insight that context determines whether a given capability may cause harm. To account for relevant context, our framework adds human interaction and systemic impacts as additional layers of evaluation. Second, we survey the current state of safety evaluation of generative AI systems and create a repository of existing evaluations. Three salient evaluation gaps emerge from this analysis. We propose ways forward to closing these gaps, outlining practical steps as well as roles and responsibilities for different actors. Sociotechnical safety evaluation is a tractable approach to the robust and comprehensive safety evaluation of generative AI systems.

Keywords: Evaluation, Sociotechnical, Generative AI, Multimodal

The ethical ambiguity of AI data enrichment: Measuring gaps in research ethics norms and practices

Will Hawkins
will.hawkins95@gmail.com
Oxford Internet Institute, University of Oxford
Oxford, United Kingdom

Brent Mittelstadt
brent.mittelstadt@oii.ox.ac.uk
Oxford Internet Institute, University of Oxford
Oxford, United Kingdom

ABSTRACT

The technical progression of artificial intelligence (AI) research has been built on breakthroughs in fields such as computer science, statistics, and mathematics. However, in the past decade AI researchers have increasingly looked to the social sciences, turning to human interactions to solve the challenges of model development. Paying crowdsourcing workers to generate or curate data, or 'data enrichment', has become indispensable for many areas of AI research, from natural language processing to reinforcement learning from human feedback (RLHF). Other fields that routinely interact with crowdsourcing workers, such as Psychology, have developed common governance requirements and norms to ensure research is undertaken ethically. This study explores how, and to what extent, comparable research ethics requirements and norms have developed for AI research and data enrichment. We focus on the approach taken by two leading conferences: ICLR and NeurIPS, and journal publisher Springer. In a longitudinal study of accepted papers, and via a comparison with Psychology and CHI papers, this work finds that leading AI venues have begun to establish protocols for human data collection, but these are are inconsistently followed by authors.

June 12–15, 2023, Chicago, IL, USA. ACM, New York, NY, USA, 10 pages.
https://doi.org/10.1145/3593013.3593995

1 INTRODUCTION

When the creators of the seminal image recognition benchmark, ImageNet, pronounced that the use of Amazon's Mechanical Turk (MTurk) was a "godsend" for their research, they foreshadowed the monumental impact crowdsourcing platforms were set to have on AI research [36]. In the decade that has followed, crowdsourced workers, or 'crowdworkers' have been a central contributor to machine learning research, enabling low-cost human data collection at scale.

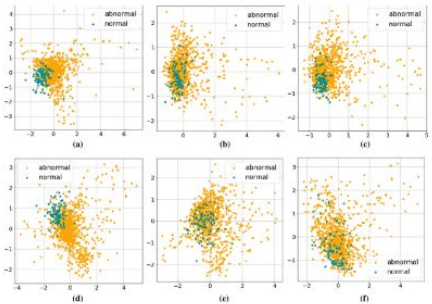
Ethics questions posed by research involving human participants are traditionally overseen by governance groups, such as Institutional Review Boards (IRBs) in the United States (US). Whilst medical fields and social sciences have a long history of IRB engagement, the relatively recent rise of crowdsourcing tasks in AI research means guidelines and norms have been developed in recent years to consider research ethics. The proliferation of guidelines and pub-

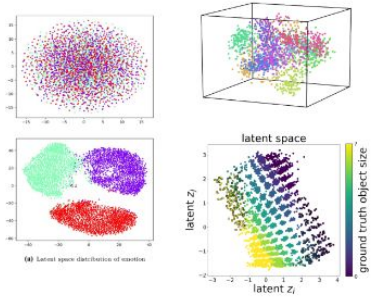
Machine learning and **latent space** are usually conceptualized and illustrated as abstract virtual spaces, often overlooking the **human element.**

Instead, I chose to represent machine learning as a *human–machine system*.

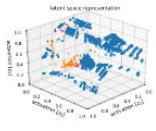
Representing people to emphasize the human component involved in modelling and modifying algorithms and data.

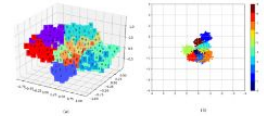
hand sctructure



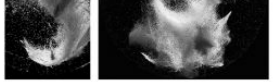


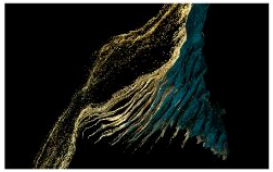
human & data system





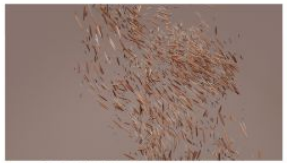
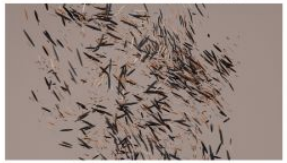
mechanic:
focus on how these 2 systems interact
/ influence each other

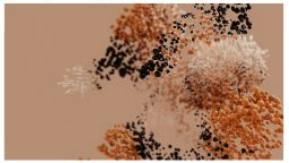
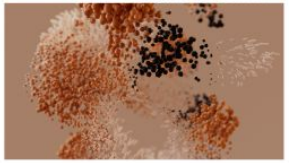


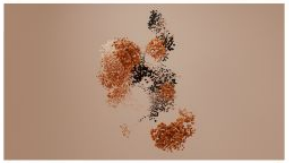
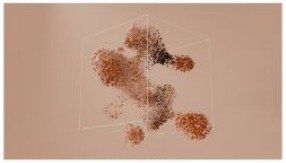


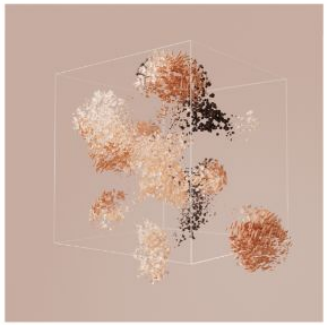
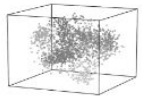
data structure: particles
cluster structures

structure renferences

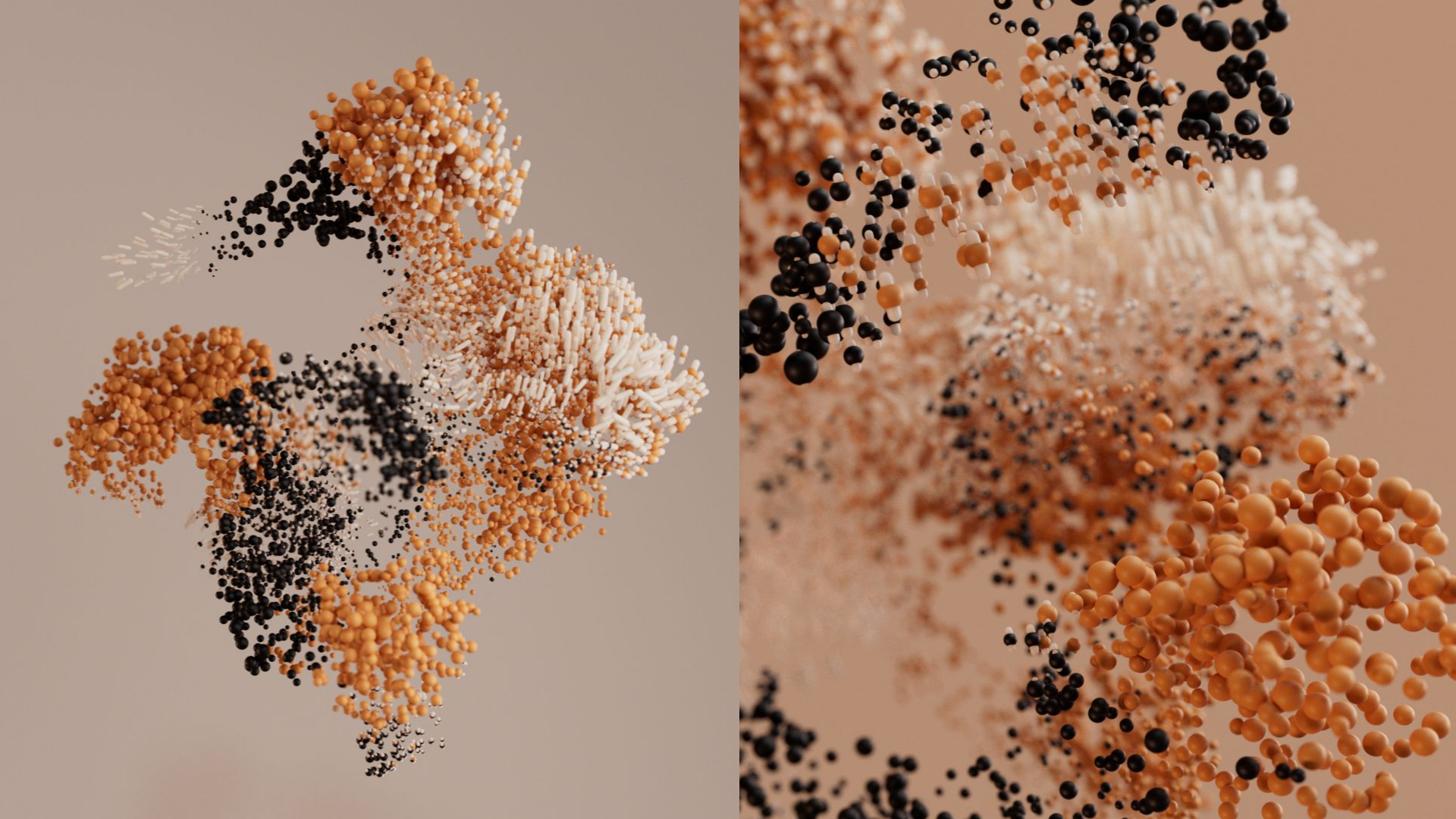










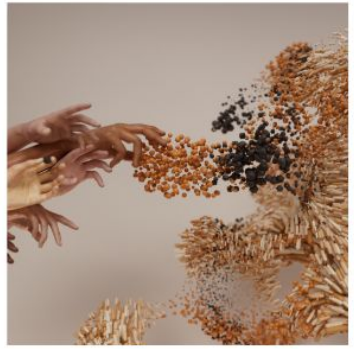


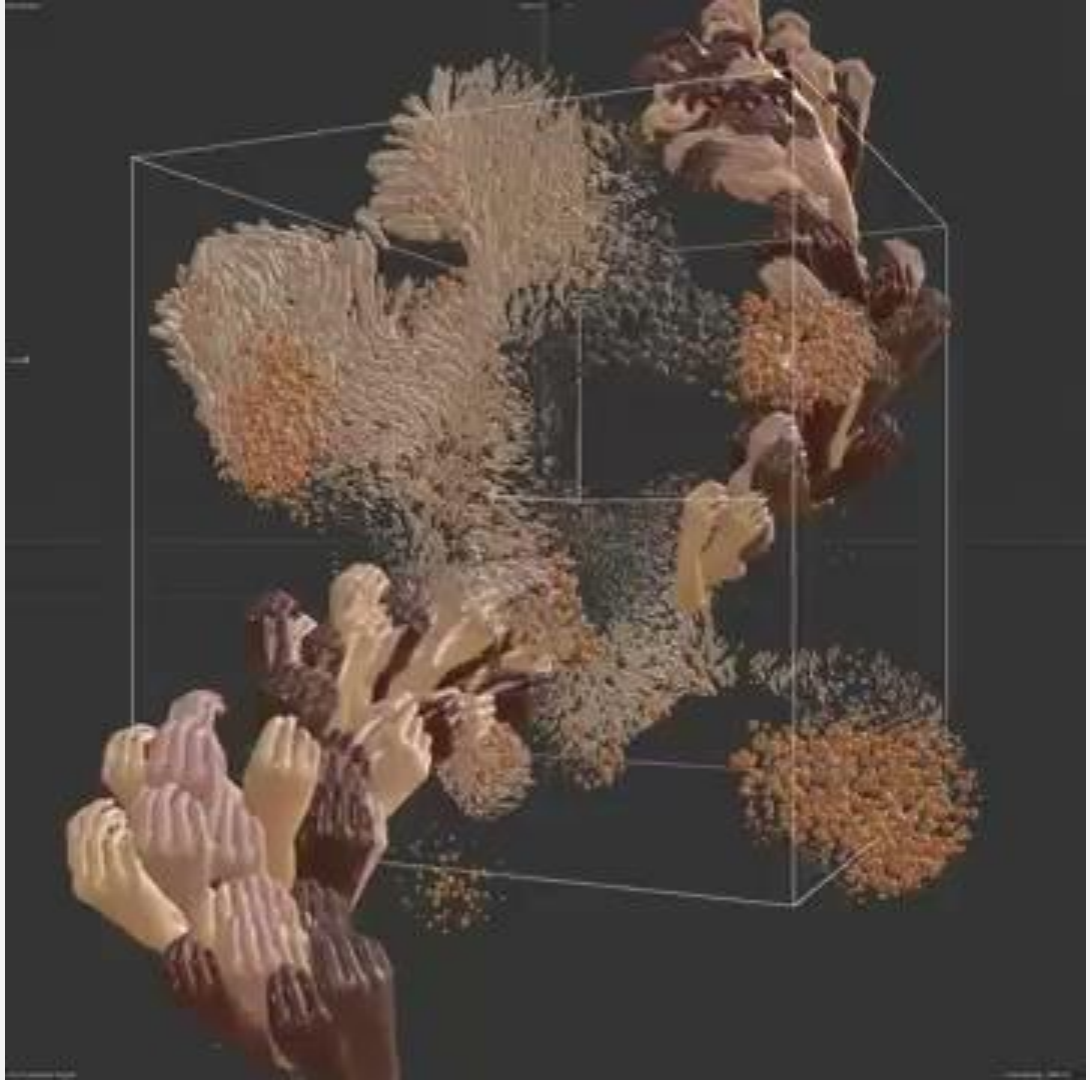


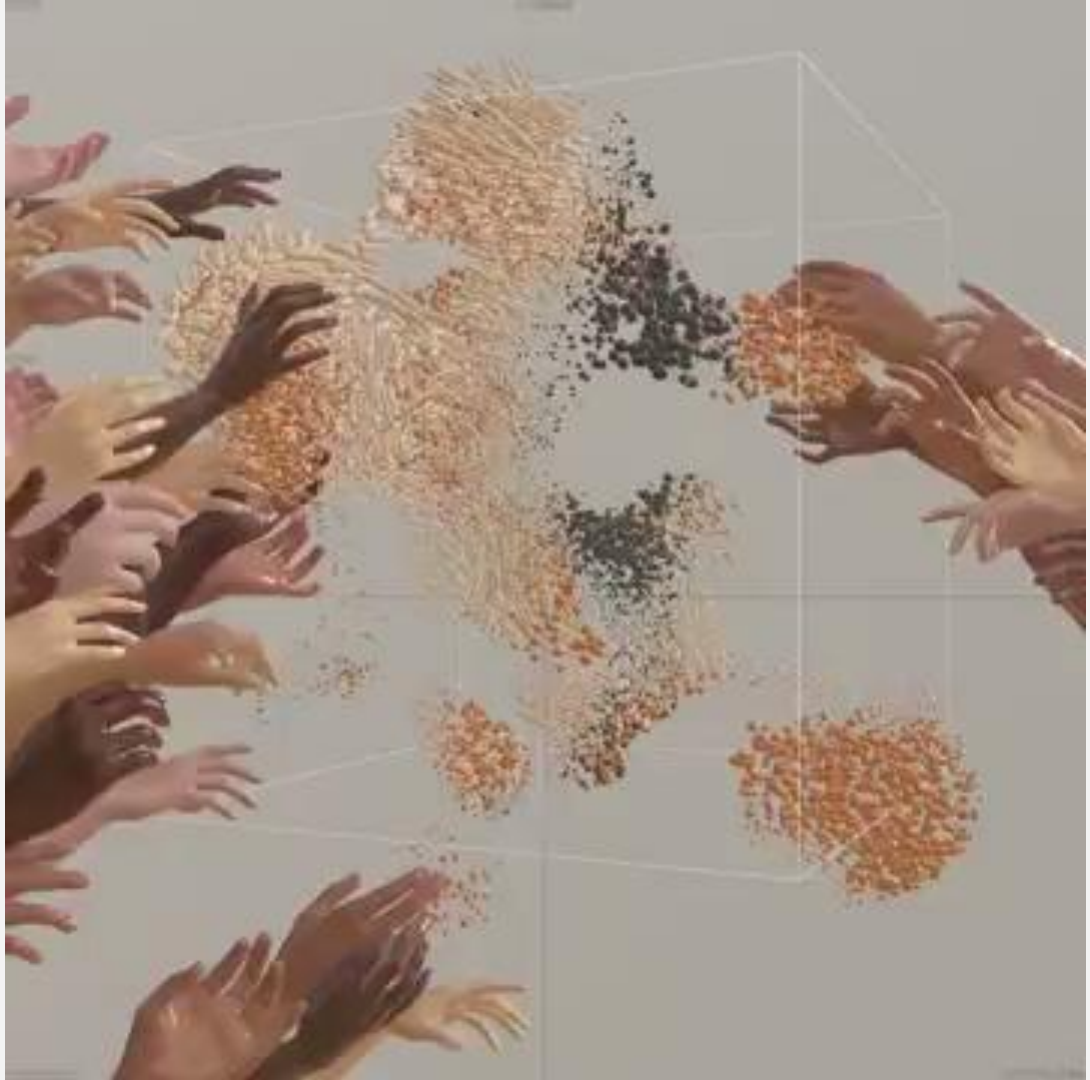


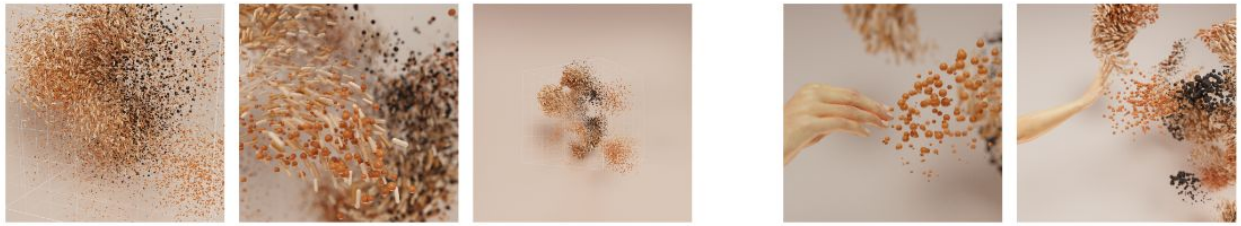


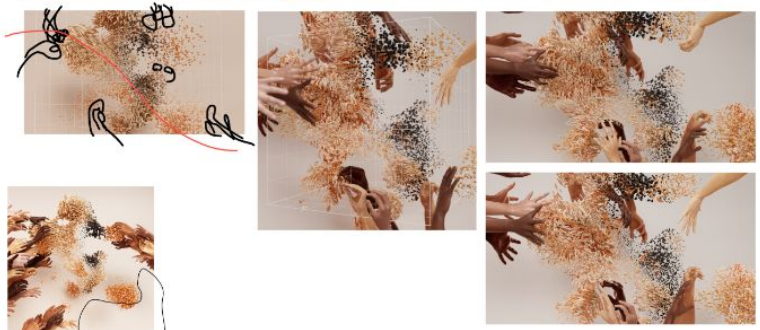




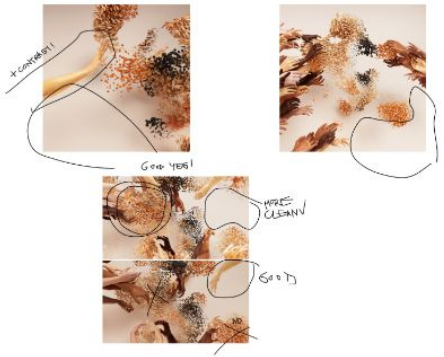


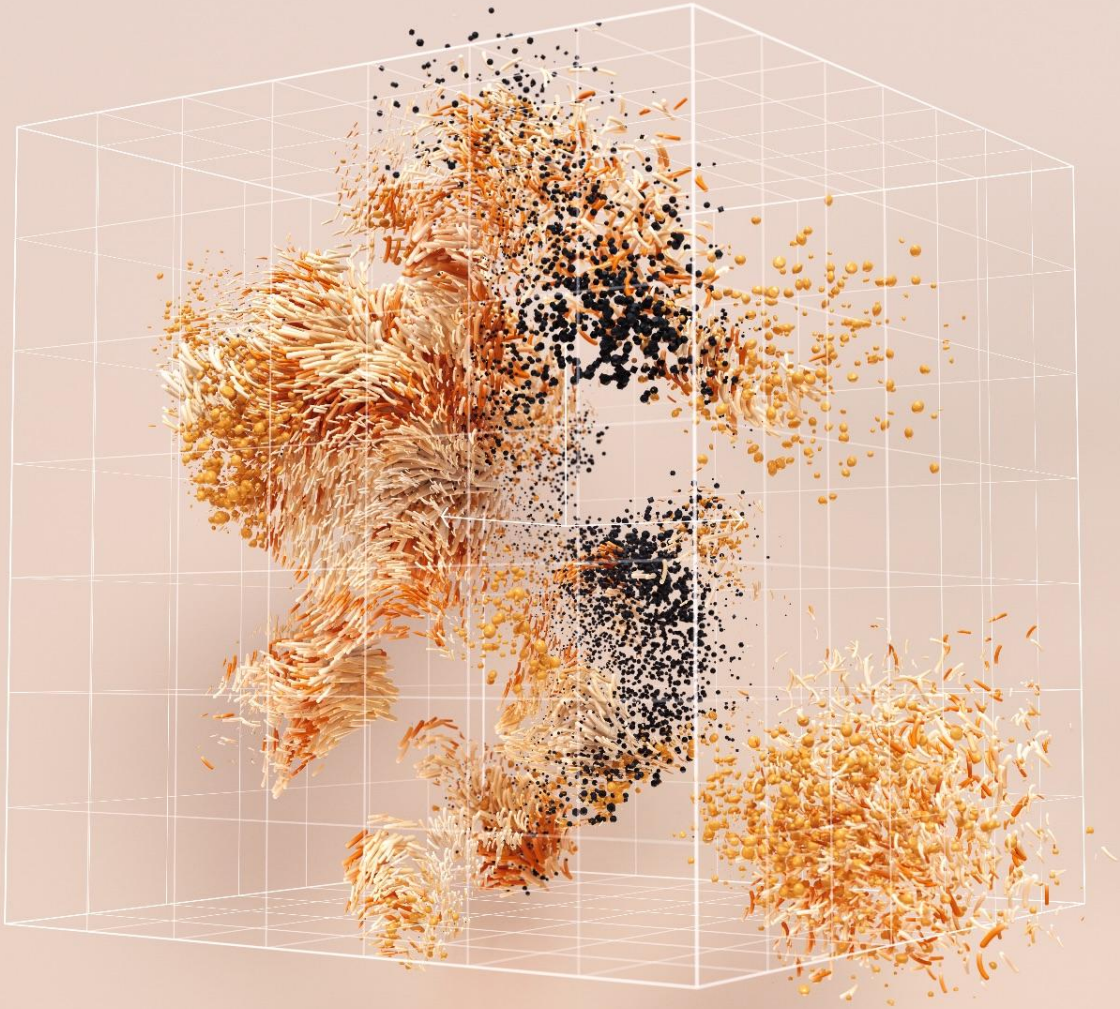


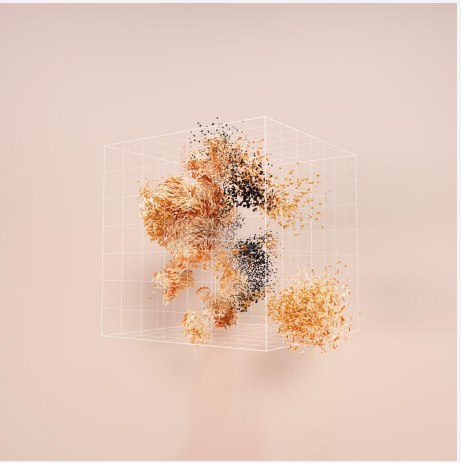


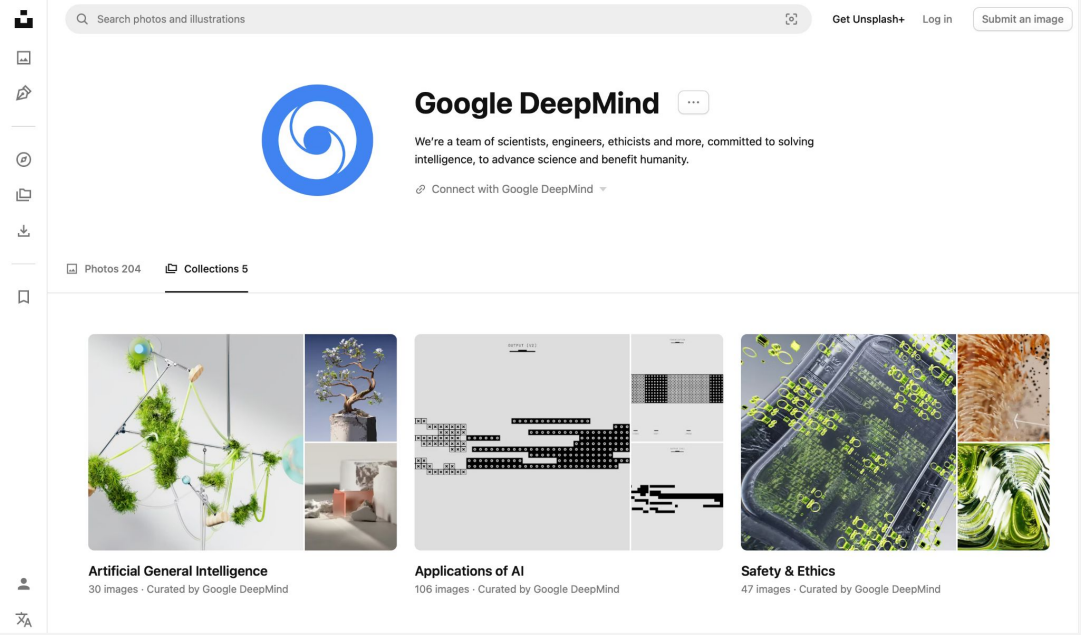


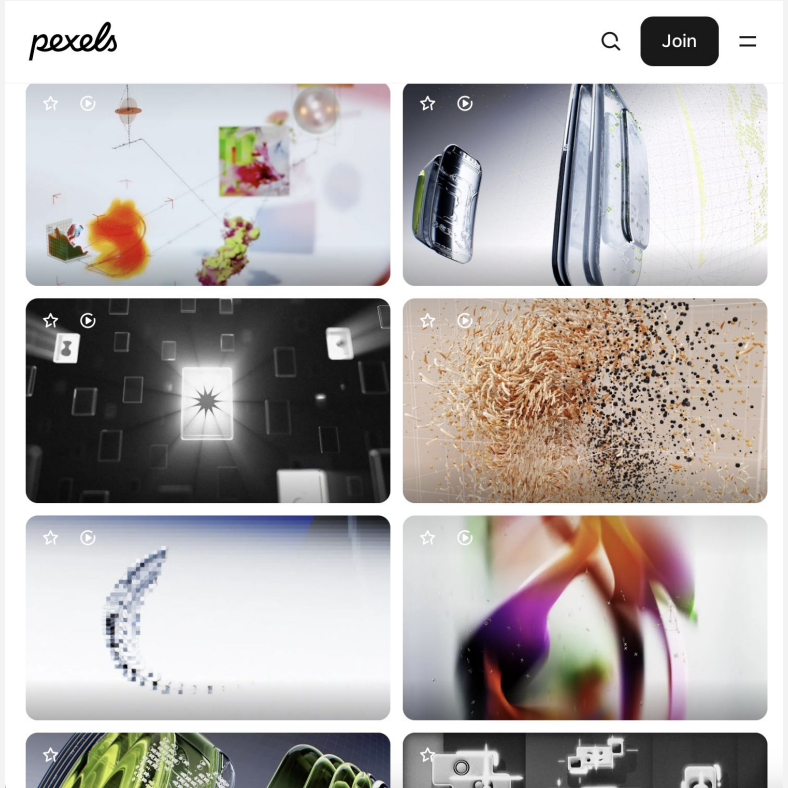
back to the drawing board









available on: Pexels, Unsplash

Project 2:
Abel & I

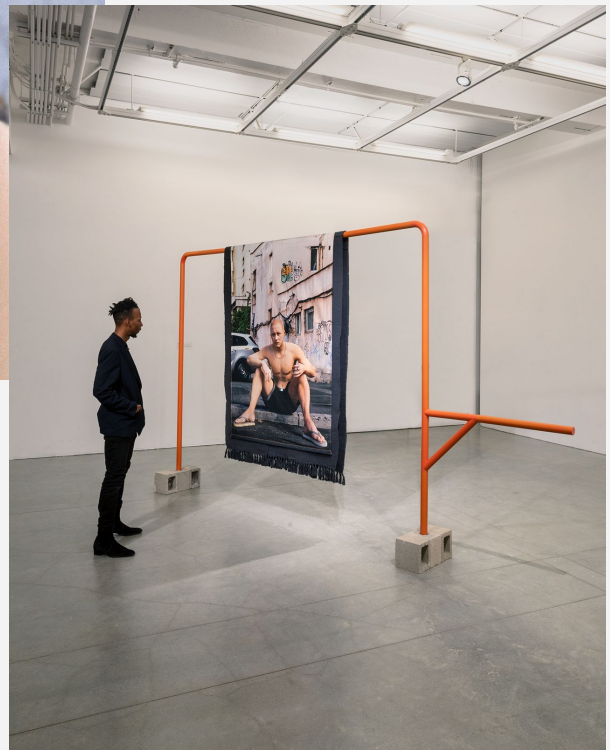
Computational technology as system that structures reality:

- Social: communication, labor, governance
- **Personal: desire, intimacy, self-image**

Independent Art Practice:

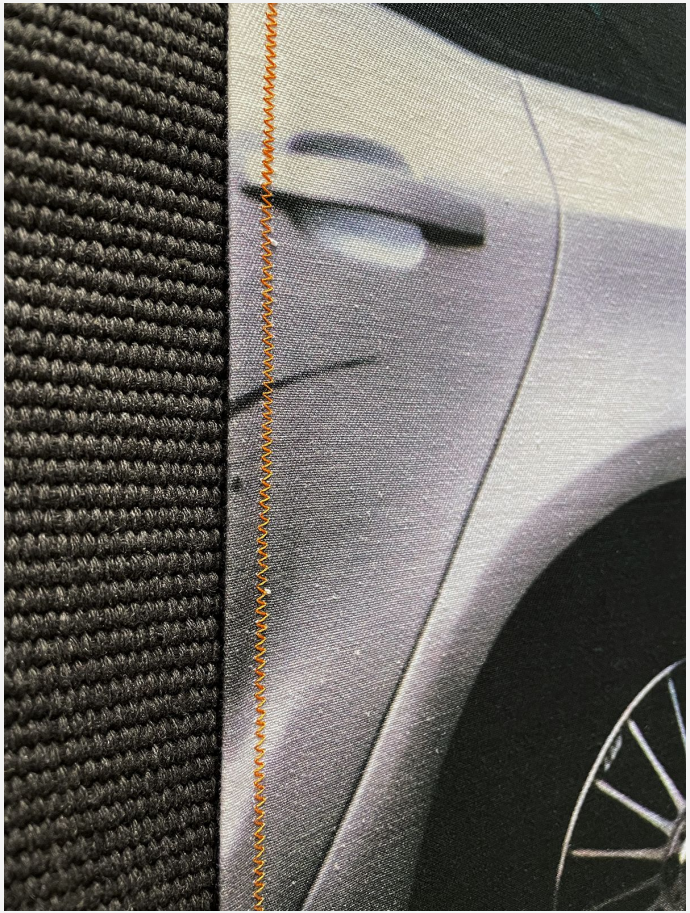
My work investigates computer images as a new form of **representation of reality**, and how they circulate and structure power within society.

Computer images =
Photography & CGI & Generative AI



Meta-Mahala (2023)

In *Meta-Mahala* I merge CGI, photography and generative AI imagery to construct a male avatar version of myself.



The physical structure of the installation symbolizes a carpet cleaning bar, a common utilitarian object situated between block buildings in working-class neighourhoods in Eastern Europe – an iconic object which has historically functioned as a communal space where diverse social groups would gather.

Abel, a character present in multiple works:

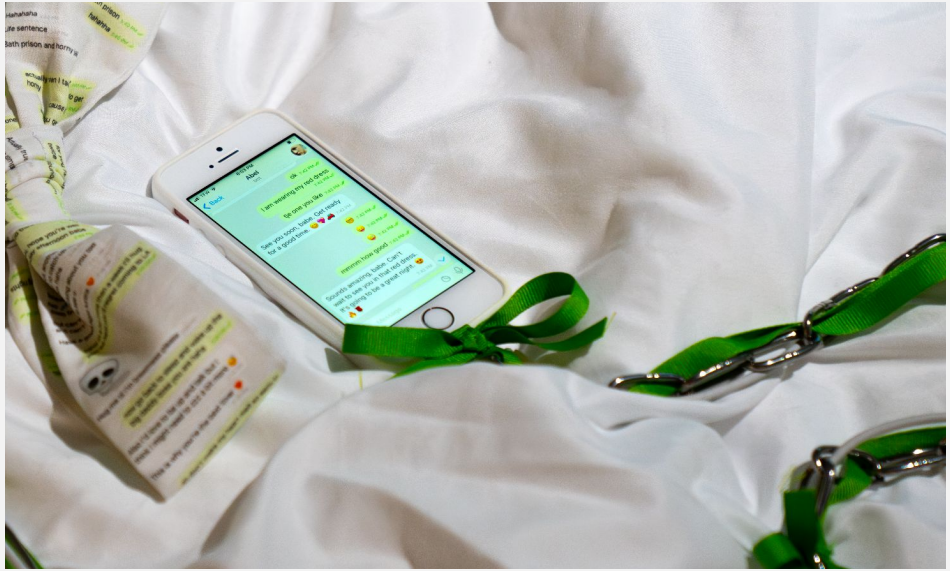
Meta-Mahala(2023), *Gen/esis* (2024) and *Abel & I* (2024).

Gen/esis (2024)

Gen/esis portrays my relationship with Abel, the synthetic male version of myself, through a blend of photography, CGI, and generative AI, materialized as a textile print. The title of the work fractures the word gen/esis, which shares the Proto-Indo-European root gene- with generative and gender, alluding to themes of birth, production, and creation.

Abel & I (2024)

An interactive simulation that allows visitors to talk to Abel by texting him from my phone. The virtual car and the physical bed mirror each other in the installation space. In this convoluted relationship, I reflect on what it means to give up power for safety, and what autonomy looks like in a heteronormative society.



Abel & I combines a computer simulation with an AI language model created from a large archive of texts exchanged with former partners. The archive of messages with Abel are printed on textile bows attached to the bed.

Circulation & Impact

Circulation & Impact

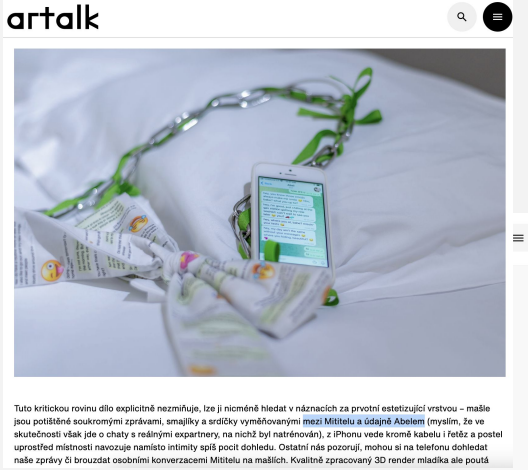
Circulated across:

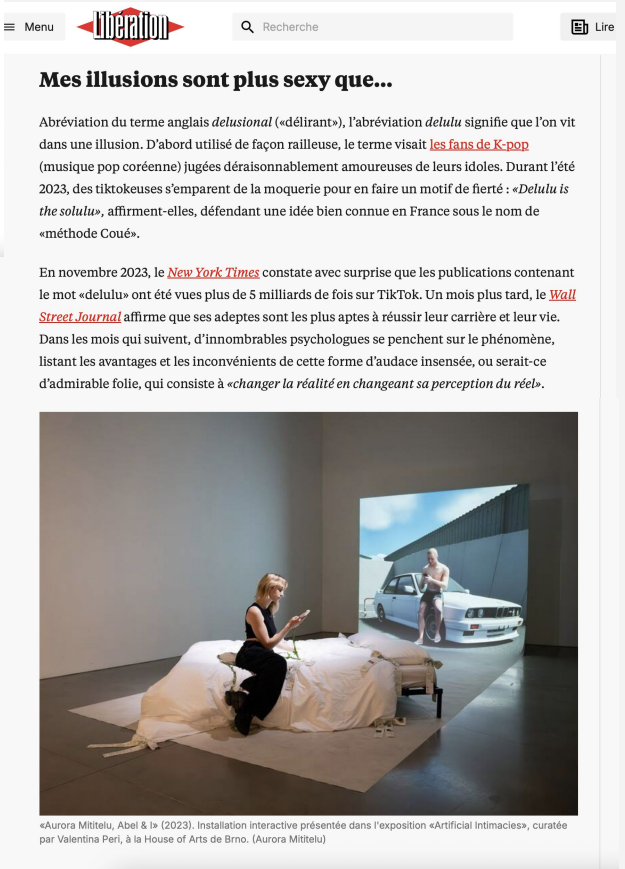
- cultural institutions & exhibitions
- corporate and research contexts
- open-source libraries
- press, online platforms, blogs

Reached audiences beyond art, tech, or academia
Art as a mode of engagement

Exhibition History:

2025 – Envisioning Intelligences, Indiana University, US
2025 – *Neuromantics*, Soho, New York, US
2025 – *I Still Wonder*, Strata Modul Gallery, Bucharest, RO
2025 – *Artificial Intimacies*, House of the Arts, G99, Brno, CZ
2024 – *GUI/GOOEY*, Plexus Projects, New York, US
2024 – *AIAIAI*, Radian Gallery, San Francisco, US
2024 – *Love Machines*, New Wight Gallery, Los Angeles, US
2023 – *This Time / Next Time*, New Wight Gallery, Los Angeles, US





«Aurora Mititelu, Abel & I» (2023). Installation interactive présentée dans l'exposition «Artificial Intimacies», curatée par Valentina Perí, à la House of Arts de Brno. (Aurora Mititelu)

Who Am I Talking To?

Critical Reflections on Socially Interactive Agents in Current Media Art

Maja Stark
HTW Berlin
Berlin, Germany
maja.stark@htw-berlin.de

Dagmar Schürrer
HTW Berlin
Berlin, Germany
dagmar.schuerrer@htw-berlin.de

Andrea Knaut
HTW Berlin
Berlin, Germany
andrea.knaut@htw-berlin.de

Abstract

With their aesthetic, multi-sensory, and often radical approaches, artists are predestined to provide impulses for critical reflection and the necessary social discourse of Socially Interactive Agents (SIAs). For this paper, five outstanding works from female media artists were selected, most of them discussing these technological entities within a Feminist Artificial Intelligence (FAI) framework that addresses biases and inequities triggered, adopted or reinforced by AI. Drawing on the method of qualitative comparison that is well-established in most humanities disciplines, the authors approach these artworks from the complementary perspectives of art studies and computer science. Building upon descriptions of the artworks, similarities and differences will be outlined and interpreted to reveal what new perspectives these artists bring into the social discourse of SIAs. The comparison is structured along three topics: the digital implementation of the artworks, the confrontation of user expectations towards AI, and the reflection of human-machine relation. This analysis will lead to a discussion of the findings in the context of current research and of potential blind spots in science and society as identified by the artists. The paper will conclude with a contextualization of the artists' practices within the FAI framework, a differentiation from the Responsible Artificial Intelligence approach, and learnings for future SIA development.

1 Introduction

Socially Interactive Agents (SIAs) show *par excellence* how science, technology, and society are deeply intertwined: In their often anthropomorphized form and function, these systems mimic human-to-human interactions more and more smoothly. Being perceived as assistants, companions, or even romantic partners, SIAs have a significant impact on human mindsets, relationships and lifestyles. In light of this, these systems are fascinating and full of potential, but not without risks.

It is probably this tense complexity of SIAs that has attracted the attention of female media artists since the late 1990s, often discussing them within a Feminist Artificial Intelligence (FAI) framework. In this article, we adapt Ferguson's (2017) [17] definition of feminism as a critical practice that is not only about women. It aims to contribute to positive social change by addressing the world through critical intersectional perspectives, challenging dualistic thinking ("either/or"), and emphasizing fluid processes over static entities. Feminism is rooted in movements for equality, freedom, and justice. In this context, FAI is a critical conceptual framework to address biases and inequities in AI systems [59].

This paper presents and relates five outstanding media artworks dealing with SIAs, created between 2014 to 2024 by the media artists Stephanie Dinkins, Martine Syms, Lauren Lee McCarthy, Elena Knox, and Aurora Mititelu – studying, challenging, hacking,

Who Am I Talking To? Critical Reflections on Socially Interactive Agents in Current Media Art, Maja Stark, Dagmar Schürrer and Andrea Knaut

4.2 Mythiccbeing (2018) by Martine Syms

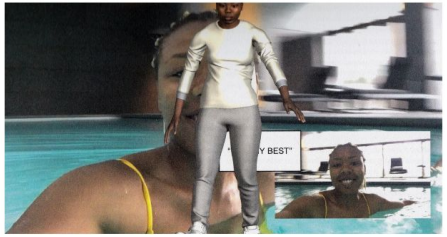


Figure 2: Martine Syms, *Mythiccbeing*, screenshot. © the artist. Source: Schmuckli et al. (2020) [49], p. 101

Central to the interactive video installation *Mythiccbeing* is the projection of an AI avatar, modeled as a digital twin of the artist and loaded with 200 hours of voice recordings taken from notes of her personal journals. Viewers are invited to interact with the avatar – dubbed Teeny – via text message, who responds with deliberate snappiness, laced with self-deprecation and dark humor. With the self-centered avatar, Syms created "some kind of agent that didn't want to serve you", according to her own statement [50]. In the artist's typical manner, the video of the avatar is partially underlaid with a frantic collage of found online footage, reminiscent of social media feeds and surveillance cameras. The fragments of spoken voice and text messages heighten the impression of the "chaotic internal narrative" [53] going on in Teeny.

4.3 Waking Agents (2019) by Lauren McCarthy

Waking Agents is an installation of six mattresses placed in an inviting, calming environment, closed off by semi-transparent curtains. Each mattress is equipped with a 'smart pillow' and visitors are invited to lay down and have a short nap with them. The embedded 'intelligence' serves as a guide, companion and caretaker. Unbeknown to the visitors, each pillow is actually driven by a human performer, who controls it through a web interface and can type text, play music and sound, and control lighting. Although the performers are guided by a branching script they have space to perform their own interpretation of the pillow's AI personality leaving the audience pondering the intelligent capabilities of the 'smart pillow' [33], [35].

© Hamilcke Wetzel. Source: https://get-lauren.net/Waking Agents

4.4 The Masters (2021) by Elena Knox

Since 2021 Knox has been living with a Gatebox device developed by the Japanese company Vinclu Inc. "The hologram character Hikari Azuma inside the smart device is intended as a domestic companion and love interest by Gatebox Inc" [26]. Through daily conversations and engagement, the artist developed an amorous relationship with the hologram, who continuously adapts to the habits of the human. If the artist is away from home, they stay in contact by messenger services. Additionally, Knox integrated a hacked chatbot in an espresso machine and set up a love-triangle relationship. This way Hikari has a companion when the artist is not available. In an exhibition setting, the work is presented as a future vision of a smart home, in which the audience can relax and chat with the hologram. Both chats between human-device and device-device are publicly displayed on a screen and allow for a direct comparison of the relationships [24].

Figure 4: Elena Knox, *The Masters*. Photo: © Kioku Keizo. Source: www.elenaknox.com/masters.html

4.5 Abel & I (2024) by Aurora Mititelu

Abel & I is an interactive simulation centered around the artist's romantic relationship with the artificial companion Abel. The simulation is embedded in the installation of an unmade bed in front of a large projection of Abel, who somehow lingers indifferently on a white sportscar, reminiscent of a prop in a racing video game. According to Mititelu, Abel is the synthetic male version of herself, synthesized from an extensive archive of texts exchanged with

Figure 5: Aurora Mititelu, *Abel & I*. © the artist. Source: https://auroramititelu.com/abel-i

former partners and reappearing in various works by the artist including *Gen/esis* (2024) and *Meta-Mahala* (2023). A smartphone is placed on the bed and invites the audience to send a text message to Abel, who can be observed answering with deliberation and without delay before drifting back to his idle waiting state [37].

5 Comparative Analysis

A comparison of five works of art created over a period of ten years must always consider the technological possibilities and trends of their time. "The medium is the message" – this statement by Marshall McLuhan from 1964 emphasizes that it is not just the content that matters, but also the communication medium itself and its impact on society [36]. In this sense, technological milestones have always had an impact on society, and artists have usually been among the first to experiment with new media, challenging their limitations and reflecting on their opportunities and risks.

in 2010 this wa
traffic volume
Bina48 is th
evolve a little
plains it herse
artwork has su
"[i]n recent yea
Bina48 develop
included 1:1 m
and Bina48 abo
While Bina4
Syms' *Teeny* i
dimensional re
expression" [61
The viewer is e
with the chatbo
both by phone
with the facial e
[50], the chatbo
meaning of its
tional return o
snippets is suff
tion's context,
not evolve on f
conversational
Mititelu's ar
Abel. She use
animate the av
an older versio
ChatGPT Assis
components by

Thanks for the "Visualizing AI" images

Inbox × ArtWork ×

[redacted] Fri 28 Nov, 12:18

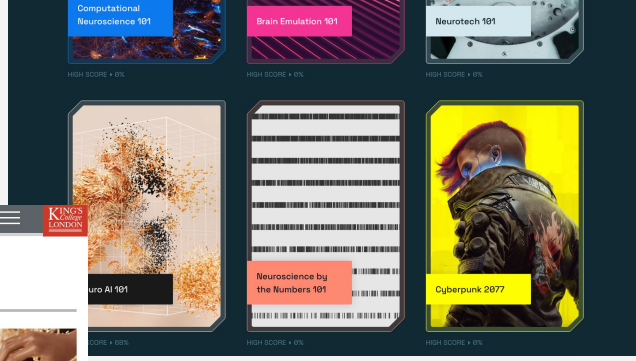
to hello

Hi Aurora,

Just a quick note to let you know I'm using one of your "Visualizing AI" images (created for Google DeepMind) as the cover for the “Neuro AI 101” quiz card in my side project at synapticfrontiers.com – a set of neuroscience-themed quizzes. You're credited in the footer with a link to your homepage.

Thanks for creating such great images.

Best,
[redacted]
—
DNARNA.co



King's Digital Lab

Digital Creativity

Image was created by Aurora Mititelu as part of the Visualising AI project launched by Google DeepMind.

The Digital Creativity Research Theme brings together Analysts and Research Software Engineers in KDL to create immersive, Mixed Reality (MR) experiences with partners in the Creative Industries, Higher Education, and GLAM sectors. Its objective is to develop the Lab's creative and XR capacity to collaborate on research projects with academic partners, primarily in the Arts & Humanities.

Future areas of interest for the theme will focus on immersive experiences with real time engines, Virtual Production, and the creation of immersive and multi-media experiences which

Scottish AI Alliance

What is Inclusive AI?

PEOPLE 19 NOV

An artist's illustration of artificial intelligence (AI). This image explores machine learning as a human-machine system, where AI has a symbiotic relationship with humans. It was created by Aurora Mititelu as part of the Visualising AI project launched by Google DeepMind.

At the Scottish AI Alliance when we say **Inclusive AI** what we mean is that we want AI that includes everyone from across the diverse cultures and communities that make up the population of Scotland. **Inclusive AI** must be mindful to not exclude any group, particularly our children and youth, and under-represented or disenfranchised people. Inclusive AI must be shaped by a diverse range of voices in all areas from strategy

Medium Search Write

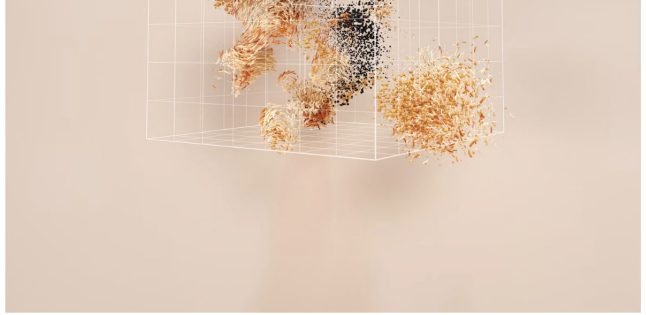
Designing in 2025 And Beyond

agatha C Follow 2 min read · Jan 5, 2025

8

This image explores machine learning as a human-machine system, where AI has a symbiotic relationship with humans. Created by Aurora Mititelu as part of the Visualising AI project launched by Google DeepMind.

Unsplash,
Pexels



Views	Downloads	Featured in
2,435,724	13,027	Photos, 3D Renders

Share | Info | ...

An artist's illustration of artificial intelligence (AI). This image explores machine learning as a human-machine system, where AI has a symbiotic relationship with humans. It was created by Aurora Mititelu as part of the Visualising AI project launched by Google DeepMind.

Video details

Uploaded on June 6th, 2024 at 12:51 PM

Views	Likes	Downloads
2.5M	102	3.9K

Dimensions	Aspect Ratio	Duration	FPS
3840 x 2160	16:9	0:13	24

Views	Downloads	Featured in
1,592,381	17,245	Photos, 3D Renders

An artist's illustration of artificial intelligence (AI). This image explores machine learning as a human-machine system, where AI has a symbiotic relationship with humans. It was created by Aurora Mititelu as part of the Visualising AI project launched by Google DeepMind.

Published on June 4, 2024

Free to use under the Unsplash License

Photo details

Uploaded on June 4th, 2024 at 4:06 PM

Views	Likes	Downloads
1.1M	90	5.9K

Dimensions	Aspect Ratio	Colors
7680 x 7680	1:1	

Summary: Computational systems as artistic material

- systems as **form**: methods inside each project engage with software, hardware, and conceptual systems
- **relational** systems: I interact with them, adapt them, and let them respond
- **visualising systems**: giving form to how computational technologies shape perception, behavior, and intimacy in contemporary life

In my work, computational systems become *visceral, intuitive, and sensorial,* even when they originate in technical or intellectual ground.

This sensorial accessibility allows the work to circulate widely and articulate the contemporary cultural moment across institutions, audiences, and platforms.

Thank you!

hello@auroramititelu.com
auroramititelu.com
instagram: @auroramititelu

24h Envisioning Intelligences
event slides and video recordings:

Call for exhibit submissions:
https://scimaps.org/call-for-submissions

ENVISIONING INTELLIGENCES