

*Public Lecture at the University of Tartu, Estonia
May 6th, 2025*

Illustrated with



The Algorithmification of Society: A wake-up call

Prof. Dr. Dagmar Monett

Computer Science Dept., Berlin School of Economics and Law
(HWR Berlin), Germany

AI is Everywhere

Ariyana Ahmad
& The Bigger Picture

Licensed by CC-BY
4.0

<http://anayira7.wixsite.com/ari7>
<http://www.adaptcentre.ie/discussai/bigger-picture/>

“scenes that capture the role of AI in enhancing and impacting different aspects of human life”

<https://betterimagesofai.org/>





*Misconceptions about algorithms' capabilities, the narratives used to refer to them, a new high in hype inflating narrow successes, and the unregulated and/or bad uses of AI technologies are not only affecting disempowered populations but also damaging the AI field: **they distort the public's perception of AI and destroy trust.***

AI Detectors Falsely Accuse Students of Cheating—With Big Consequences



About two-thirds of teachers report regularly using tools for detecting AI-generated content. At that scale, even tiny error rates can add up quickly.

By Jackie Davalos and Leon Yin

October 18, 2024 at 5:00 PM GMT+2

<https://www.bloomberg.com/news/features/2024-10-18/do-ai-detectors-work-students-face-false-cheating-accusations>

Nurses Warn Patient Safety at Risk as AI Use Spreads in Health Care

By Farida Jhabvala Romero  Apr 22  Save Article



Claire Siegel rallies alongside fellow nurses from across California at Kaiser Permanente on Geary Boulevard in San Francisco on April 22, 2024, to advocate for patient safety in the face of artificial intelligence technology. (Beth LaBerge/KQED)



Dr. Amy Clukey

@AmyClukey



I'm no longer a teacher. I'm just a human plagiarism detector.

I used to spend my grading time giving comments for improving writing skills. Now most of that time is just checking to see if a student wrote their own paper. What a waste of life.

1:14 AM · Oct 5, 2024 · 27.7M Views

 5.2K

 30K

 463K

 24K



<https://x.com/AmyClukey/status/1842342623295533117>

<https://tylervigen.com/spurious-scholar>

Just 4 examples among many!

<https://www.kqed.org/news/11983752/nurses-warn-patient-safety-at-risk-as-ai-use-spreads-in-health-care>

spurious scholar

Because if $p < 0.05$, why not publish?

- Step 1:** Gather a bunch of data. ^{Note}
- Step 2:** Dredge that data to find random correlations between variables. ^{Note}
- Step 3:** Calculate the correlation coefficient, confidence interval, and p -value to see if the connection is statistically significant. ^{Note}
- Step 4:** If it is, have a large language model draft a research paper.
- Step 5:** Remind everyone that **these papers are AI-generated and are not real.** Seriously, just pick one and read the lit review section. ^{Note}
- Step 6:** ...publish:

Meet the gig workers making AI models smarter

As artificial intelligence gets more powerful, the workers training the top generative AI systems are largely underpaid, overworked, and stuck in precarious employment situations

JOE CASTALDO

PUBLISHED SEPTEMBER 16, 2023

AI startup 'magically' generating 3D images was actually using humans

Not so magic after all...

By Denham Sadler on Sep 11 2023 10:16 PM

Print article

Tweet

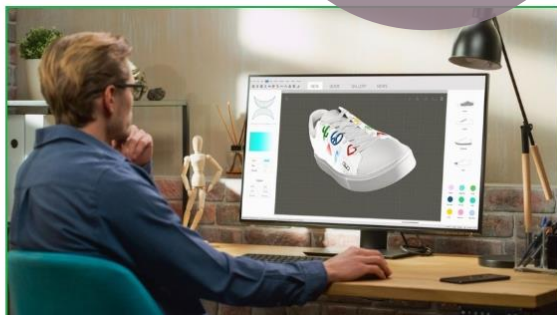
Share 20

Share

An AI startup that claimed to "magically" produce 3D models in minutes using machine learning has actually been using human artists to do a lot of the work, according to a new report.

Kaedim, founded in London in 2020, claims to use artificial intelligence to convert a client's 2D drawing into a 3D image in minutes.

Its founder, Konstantina Psoma, was included in Forbes' 30 Under 30 Europe recently, and the company has raised



Not
artificial
but very
human



Richard Mathenge led a team that moderated sexual content for OpenAI in Nairobi.

Cleaning Up ChatGPT Takes Heavy Toll on Human Workers

Contractors in Kenya say they were traumatized by effort to screen out descriptions of violence and sexual abuse during run-up to OpenAI's hit chatbot

By [Karen Hao](#) [Follow](#) and [Deepa Seetharaman](#) [Follow](#) | Photographs by [Natalia Jidovanu](#) for *The Wall Street Journal*

July 24, 2023 12:01 am ET



Nash Weerasekera for Noema Magazine

The Exploited Labor Behind Artificial Intelligence

Supporting transnational worker organizing should be at the center of the fight for "ethical AI."

ESSAY TECHNOLOGY & THE HUMAN

BY ADRIENNE WILLIAMS,
MILAGROS MICELI AND TIMNIT
GEBRU

OCTOBER 13, 2022



- **ALGORITHMIFICATION**

of humans and their behaviours



Algorithms are used “*to find, expand, fine-tune, and experiment with [human] processes [and activities] that unfold in time*” (Hilbert, 2022, p. 4), thereby allowing for the **algorithmification of humans and their behaviours** and directly affecting them and their future.

Mirror D

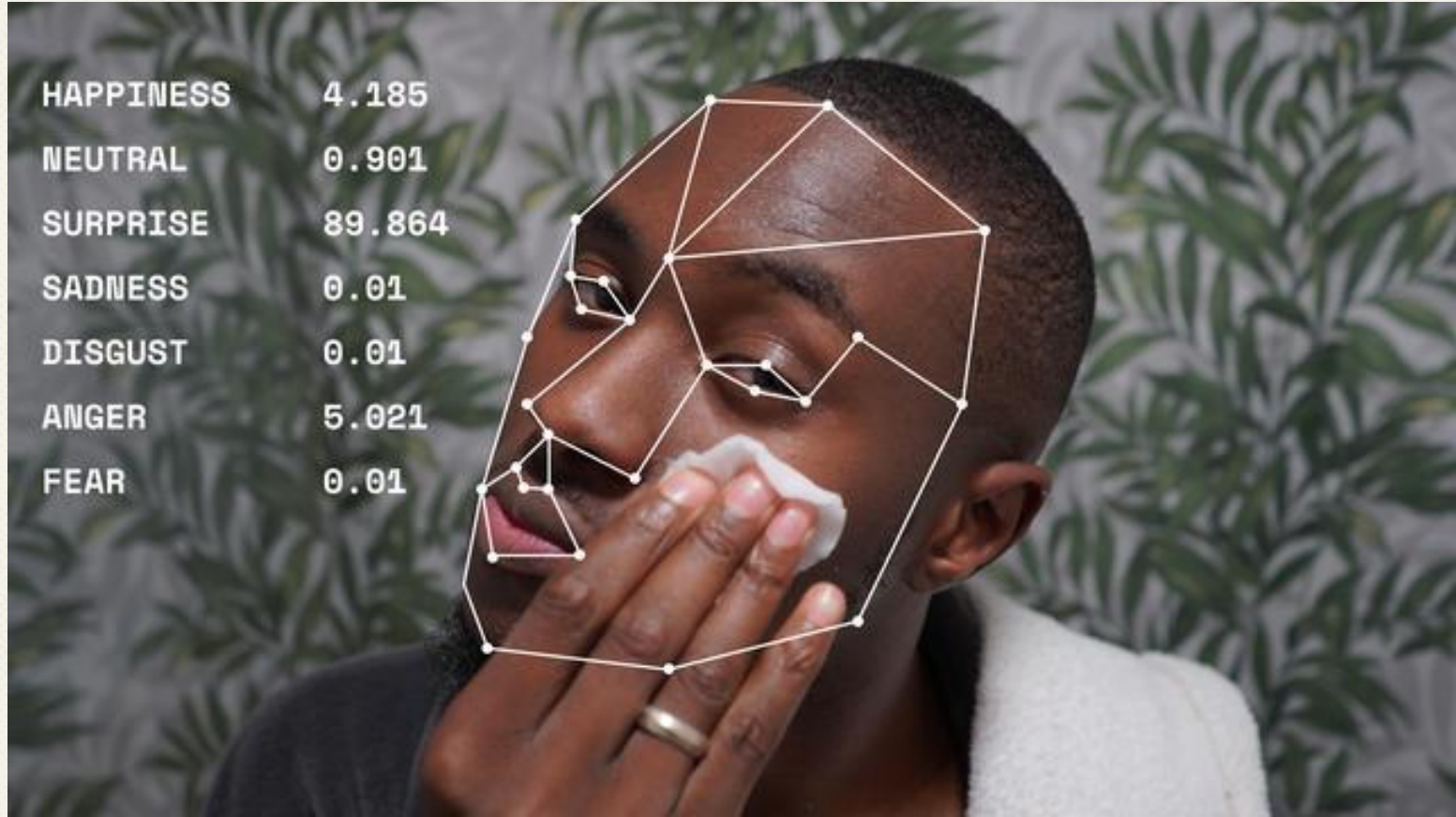
Comuzi

Licensed by CC-BY
4.0

[https://www.comuzi.
xyz/](https://www.comuzi.xyz/)

[https://betterimages
ofai.org/](https://betterimages
ofai.org/)

“’Emotion recognition’ AI is increasingly being used in applications, despite it being built on scientifically dubious (or pseudoscientific) foundations which are criticised for being inconsistent with human rights, biased, inaccurate, and discriminatory.”



Surveillance View A.

Comuzi

Licensed by CC-BY
4.0

[https://www.comuzi.
xyz/](https://www.comuzi.xyz/)

[https://betterimages
ofai.org/](https://betterimages
ofai.org/)

“The road is empty of traffic and the people in the picture are relaxed and appear to be engaged in chatting with each other. [...] The image shows how information can be found about people using biometrics based on computer vision technology, and how unaware they might be..”





The vast complexity of social interactions and life itself are ...

- reduced to **abstract, limited** mathematical formulations that cannot cope with novelty,
- translated to **machinistic** (i.e. machine-dependent) and **mechanistic** expressions,
- resulting in **restricted** and **narrow** mathematics-based algorithms,
- operating in **utilitarian** ways.

Factors conditioning the AI momentum

*Advances in the field of computer science
have been the least contributing to it*

• AI MOMENTUM WITH CONSEQUENCES •



Technology

Computing power, chips, micro- & multiprocessors, other hardware, cameras, sensors, wearables, etc.



Data

Huge amounts of data in the form of text, images, video, and audio, but also derived from users' behavior.



Software, Tools

(AI) Algorithms and models, the former mostly around for a longer while (several decades in most cases).



Exploitation

Millions of miserably-paid people in the background working to make algorithms appear “intelligent” and sustaining value extraction from data



Access, courses

Low entry level to the field, conferences, papers, courses, books, and lately also including AI-generated content



\$, Media

To buy technology, build huge data centres and research facilities, do research. And PR and media to eventually hype them.

Rare Metals 2

Hanna Barakat &
Archival Images of
AI + AIxDESIGN

Licensed by CC-BY
4.0

<https://www.hbarakat.com/>
[https://aixdesign.co/
posts/archival-
images-of-ai](https://aixdesign.co/posts/archival-images-of-ai)

*“human labor that
underpins the
material realities of
modern
technology.”*

[https://betterimages
ofai.org/](https://betterimagesofai.org/)



Silicon on Black 2

Catherine Breslin

Licensed by CC-BY
4.0

<https://www.catherinebreslin.co.uk/>

“This image shows a silicon monocrystal on a neutral background, a crucial component of AI manufacture: a block like this would be sliced into 12 inch diameter wafers to form the base of CPUs.”

<https://betterimagesofai.org/>



• AI MOMENTUM WITH CONSEQUENCES •

- **Computing power and hardware**, i.e. chips and micro- and multiprocessors, especially AI chips developed for parallel computations required by AI algorithms; also **technology** other than computer chips, like cameras, sensors, wearables, etc. that enable data collection and processing at scale;

Datafication

Kathryn Conrad

Licensed by CC-BY
4.0

<https://www.kathrynconrad.com/>

“This image represents the interest of technology companies (including but not limited to AI) in the data produced by students.”

<https://betterimagesofai.org/>



• AI MOMENTUM WITH CONSEQUENCES •

- **Data**, amassed and controlled by tech corporations, often extracted without consent from the data providers or producers. Huge amounts of data in the form of text, images, video, and audio, but also derived from users' behaviour (clicks, likes, purchases, hovers, time spent, location);

AI Architecture

Anton Grabolle

Licensed by CC-BY
4.0

<https://www.instagram.com/miss.tonton/>

<https://betterimagesofai.org/>

“Since AI is such a wide field of applications, tools, systems and more, it would be misleading to talk about it as if it were one universal thing. Even if we would look closer at one specific kind of artificial intelligence, we would see many layers or – let’s say – levels of algorithms that form one bigger system.”



• AI MOMENTUM WITH CONSEQUENCES •

- **Algorithms and models**, the former mostly around for a longer while, their basic characteristics dating back to the origins of neural networks and machine learning (from the 1950s to the 1980s), now revamped, tested, and developed further; the latter consolidating theoretical insights from the fields of statistics and linguistics, now powered with massive computing hardware and fed with huge amounts of data;

Humans Do The Heavy Data Lifting

Anne Fehres and
Luke Conroy &
AI4Media

Licensed by CC-BY
4.0

<https://www.annefehres.com/>
<https://www.luke-conroy.com/>
<http://www.ai4media.eu/>

<https://betterimagesofai.org/>

“This image highlights the role of human labour, rather than AI, in maintaining ‘appropriate’ virtual experiences. Societal imagination of AI is fueled by fantasy more than reality - there is a deliberate strategy for when to and when not to reveal the human labour within AI systems.”



Data Mining 1

Hanna Barakat &
Archival Images of AI
+ AIxDESIGN

Licensed by CC-BY
4.0

<https://www.hbarakata.com/>
<https://aixdesign.co/posts/archival-images-of-ai>

“The use of playful colors contrasts with the fragile foundations of AI infrastructure, rooted in digital colonialism and climate costs.”

<https://betterimagesofai.org/>



• AI MOMENTUM WITH CONSEQUENCES •

- **Exploitation**—as Crawford (2021, p. 64) writes, “The technical AI research community relies on cheap, crowd-sourced labour for many tasks that can’t be done by machines.” There is a massive amount of miserably paid people annotating data for the algorithms to work and moderating other data for the companies developing such algorithms to continue extracting value from data (Castaldo, 2023; Hao, 2023; Williams et al., 2022; Zuboff, 2019);

Power/Profit

Clarote & AI4Media

Licensed by CC-BY
4.0

<http://www.clarote.net>
et
<http://www.ai4media.eu/>

<https://betterimagesofai.org/>

“corporate power and profit sustained through exploitation, control and domination, lying in the hands of a few decision-making profiteers who are mostly white, and mostly men.”



• AI MOMENTUM WITH CONSEQUENCES •

- **Investments**, without it wouldn't be possible to buy technology, build huge data centres and research facilities, do research, as well as procure resources and technical infrastructure with which AI-based technology and applications can be developed;

Data is a Mirror of Us

Anne Fehres and
Luke Conroy &
AI4Media

Licensed by CC-BY
4.0

<https://www.annefehres.com/>
<https://www.luke-conroy.com/>
<http://www.ai4media.eu/>

<https://betterimagesofai.org/>

“The aim of this image is to highlight that data, in both its ‘raw’ and reinterpreted form in AI systems, has a human origin. While moving through different seemingly abstract systems, a recognition of this origin highlights the notion of ‘human in the loop’ and pushes back against the notion of AI as a ‘black box’.”



• AI MOMENTUM WITH CONSEQUENCES •

- **Courses and study programs (and also blogs, podcasts, etc.)** e.g. with instructional purposes devoted to lowering the entrance level to the AI domain;
- **Practitioners and self-declared instructors**, i.e. people with or without professional scholarship in the AI field, also sharing, tweaking, and using algorithms for new kinds of applications and problems than ever before;

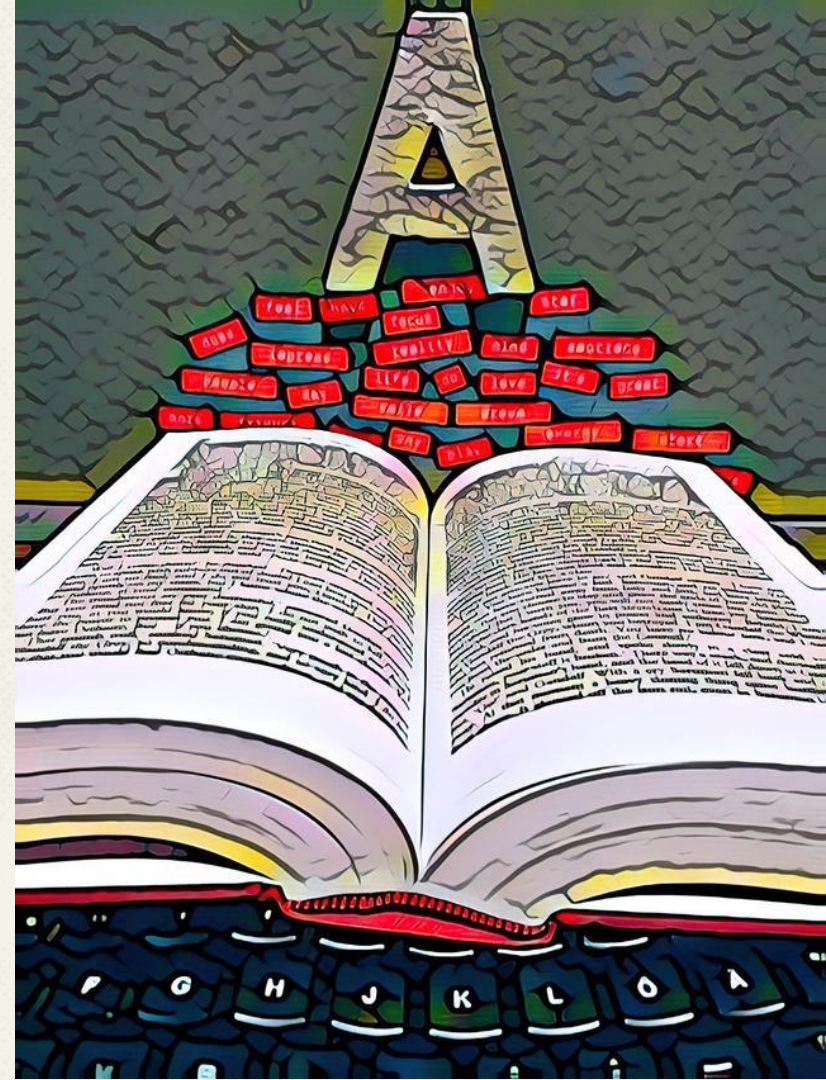
Letter Word Text Taxonomy

Teresa Berndtsson,
Licenced by CC-BY 4.0

<https://www.linkedin.com/in/teresa-berndtsson/>

“This image refers to Natural Language Processing, known as NLP, a sub-field of AI enabling computers to understand language. Chatbots, voice assistants, automatic translation, text summarization, speech recognition and synthetic voices are applications that fall under NLP. To be able to communicate we need to have a common language. The symbols, letters and words are the connection between the human and the AI, using these we can communicate with each other. This forms the basis of language models (and wider machine learning), embedded within statistical processes of pattern recognition. Words are placed, as in this image, within a symbolic taxonomy. The letter is a part of a word, which is a part of a sentence, which is a part of a context, which creates meaning. Yet these systems have no real understanding. The illusion of understanding emerges from the pattern they have learned. The single letter 'A', missing its counterpart 'I' could represent the actual lack of intelligence in these systems.”

<https://betterimagesofai.org/>



• AI MOMENTUM WITH CONSEQUENCES •

- **Conferences and (open-access) publications**, with a major increase in the number of papers and AI-related events (Maslej et al., 2024), written or organised by almost all types of actors, from laymen to AI insiders, and lately also including AI-generated content, directly affecting trust and review processes;

Morning View

Elise Racine

Licensed by CC-BY
4.0

<https://www.pandemic-panopticons.com/qr-destinies>

“By overlaying AI-generated annotations onto everyday scenes, this series uncovers hidden layers of meaning, biases, and interpretations crafted by algorithms.”

<https://betterimagesofai.org/>



Street Fair

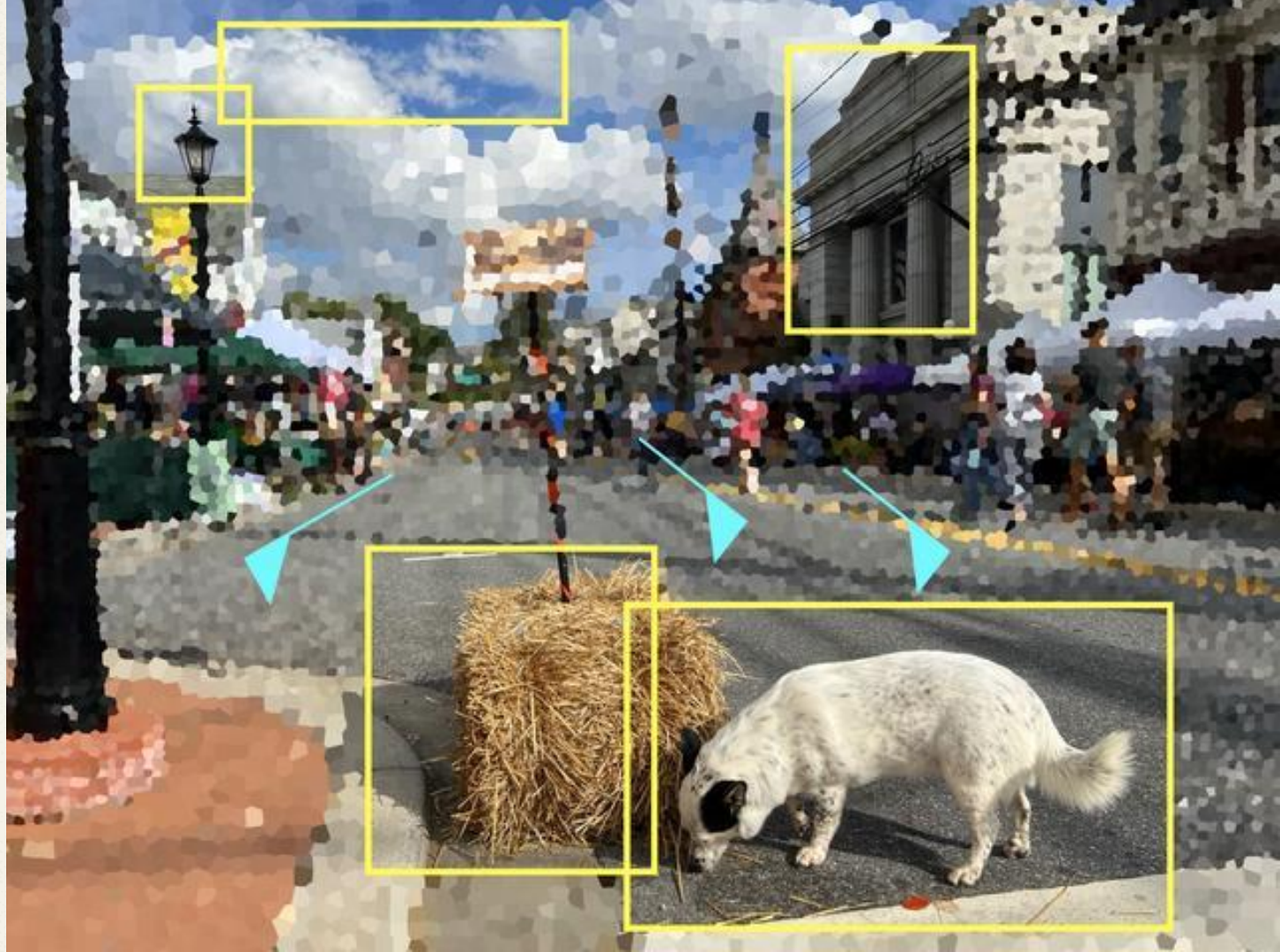
Elise Racine

Licensed by CC-BY 4.0

<https://www.pandemic-panopticons.com/qr-destinies>

“By overlaying AI-generated annotations onto everyday scenes, this series uncovers hidden layers of meaning, biases, and interpretations crafted by algorithms.”

<https://betterimagesofai.org/>



Ceci n'est pas une banane

(This is not a
banana)

Max Gruber

Licensed by CC-BY
4.0

<https://www.behance.net/maxgruber2>

*“there is a physical
banana and a photo of
a banana on a screen.*

*The object detection
doesn't make a
difference between
these two.”*

[https://betterimages
ofai.org/](https://betterimages.ofai.org/)



• AI MOMENTUM WITH CONSEQUENCES •

- **Development platforms and tools**, where (open-source) code is collaboratively produced, shared, maintained, and made accessible to novices and experts alike. These are enablers of mass consumption and of the development of new algorithms that fuel the *algorithmification* of society;
- **Marketing and media** that reverberate about the possibilities of AI algorithms and models, mostly hyping them.

AI *is* software

Lack of consensus AI definition; conceptual borrowing; definition misused and abused; “intelligent” artefacts; rebranded meaning; AI illiteracy; AI hype; AI Winters

Optimisation fallacy

Thinking that optimising complex processes and societies through their simplification and fragmentation is the best option for understanding and dealing with them.

AI optimisation promise

Societal and political decisions are technologically manipulated to serve a few and concentrate power; Surveillance economy (Zuboff, 2019); Silicolonisation (Sadin, 2020)

- **Machine intelligence is fundamentally wishful**

Fallacious, prone to misunderstandings about what the technology can truly achieve (McDermott, 1976; Mitchell, 2021)

- **Ethical issues and implications continued**

Ahistoricism is an issue in AI (Dreyfus, 1992; Lighthill, 1973; Weizenbaum, 1976; Weizenbaum and Wendt, 2015; Wiener, 1950, 1988).

Critical AI exists (Balloccu et al., 2024; Bartneck et al., 2021; Birhane, 2021; Crawford, 2021; Larson, 2021; Lipton and Steinhardt, 2019; Luccioni et al., 2023; McQuillan, 2022; Mitchell, 2019; Schaeffer et al., 2023; Vijayan, 2024; Wooldridge, 2020; Zuboff, 2019)

- **FOMO**

A serious problem in education (e.g. (Bender, 2024; Lin et al., 2023; Watermeyer et al., 2023))

Wire Bound

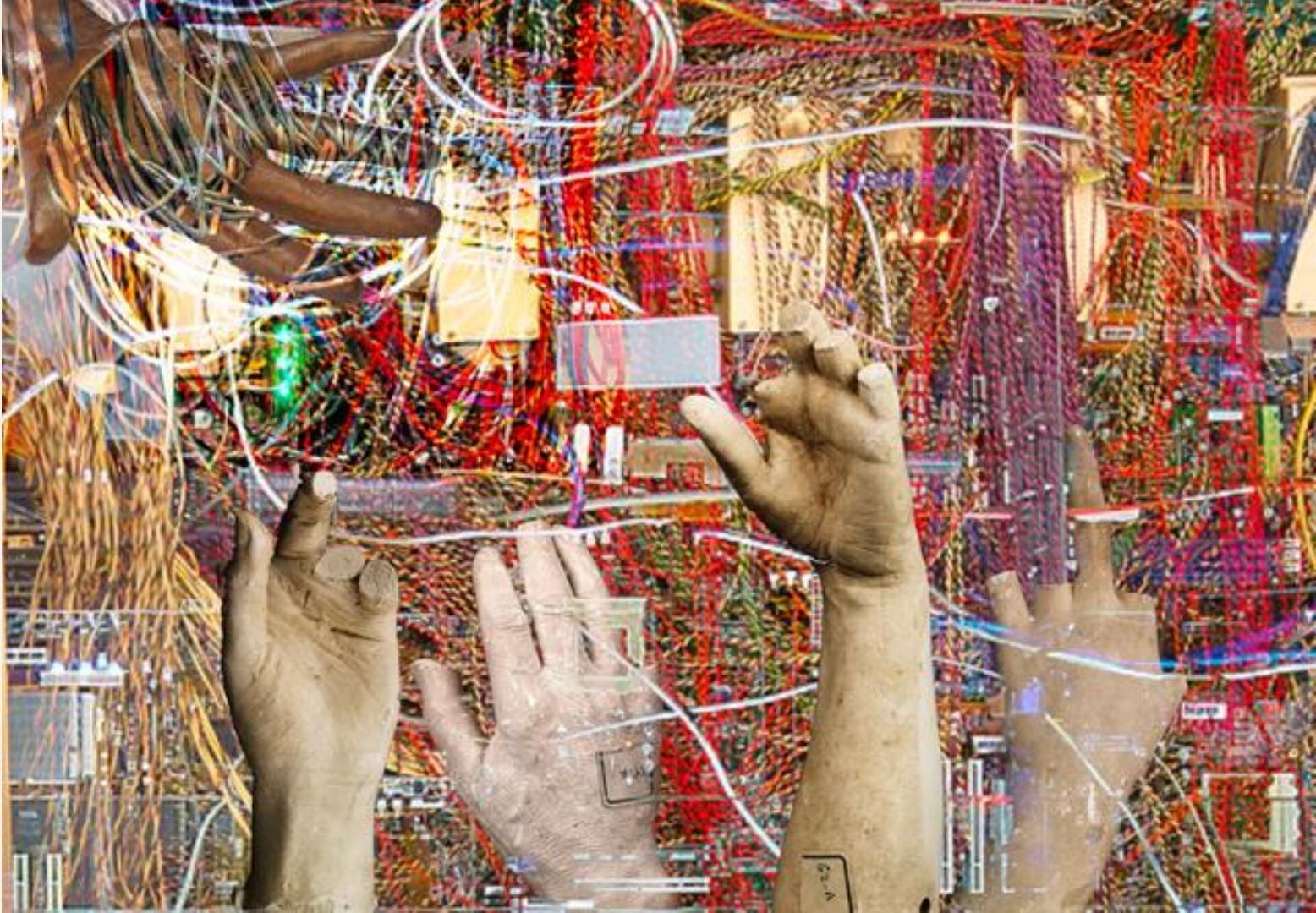
Hanna Barakat &
Archival Images of AI
+ AIxDESIGN

Licensed by CC-BY
4.0

<https://www.hbarakatt.com/>
[https://aixdesign.co/
posts/archival-
images-of-ai](https://aixdesign.co/posts/archival-images-of-ai)

*“This image
represents the
millions of tech
workers who make the
high-tech industry
physically possible.”*

[https://betterimages
ofai.org/](https://betterimagesofai.org/)



RECOMMENDATIONS AND CONCLUDING REMARKS

DEMISTIFY AI

Demystify with factual information the magic thinking about what AI could do but still does not.



D

RECOMMENDATIONS AND CONCLUDING REMARKS

DEMISTIFY AI

Demystify with factual information the magic thinking about what AI could do but still does not.

D

ETHICS & RIGHTS

Put human ethical and moral judgement into focus.
Prioritize human rights and values.

E

RECOMMENDATIONS AND CONCLUDING REMARKS

DEMISTIFY AI

Demystify with factual information the magic thinking about what AI could do but still does not.

D

ETHICS & RIGHTS

Put human ethical and moral judgement into focus.
Prioritize human rights and values.

E

Reclaim autonomy back and make informed decisions related to technology.

AUTONOMY & AGENCY

A

RECOMMENDATIONS AND CONCLUDING REMARKS

DEMISTIFY AI

Demystify with factual information the magic thinking about what AI could do but still does not.

D

ETHICS & RIGHTS

Put human ethical and moral judgement into focus.
Prioritize human rights and values.

E

Reclaim autonomy back and make informed decisions related to technology.

AUTONOMY & AGENCY

A

Question the what, how, why, by whom, for what, etc. of AI and digital technologies. Do critical AI literacy.

LITERACY

L

The answer should not be to rush or surrender to the algorithmification of our lives.

Virtual Human

Alan
Warburton

Licensed by
CC-BY 4.0

<https://alanwarburton.co.uk/>

