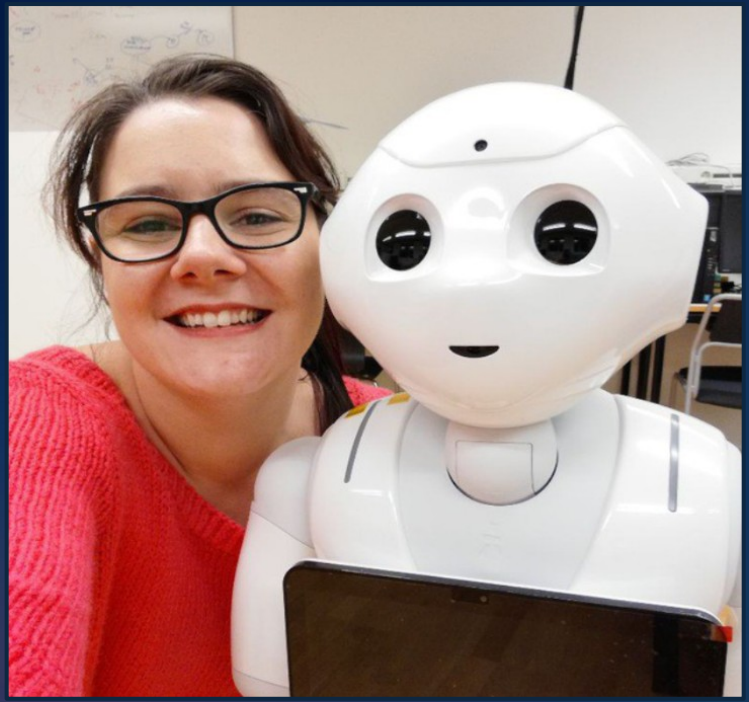
Who shapes the future with AI?

Jennifer Renoux,
Docent, Örebro University
Jennifer.renoux@oru.se

Who am I ?



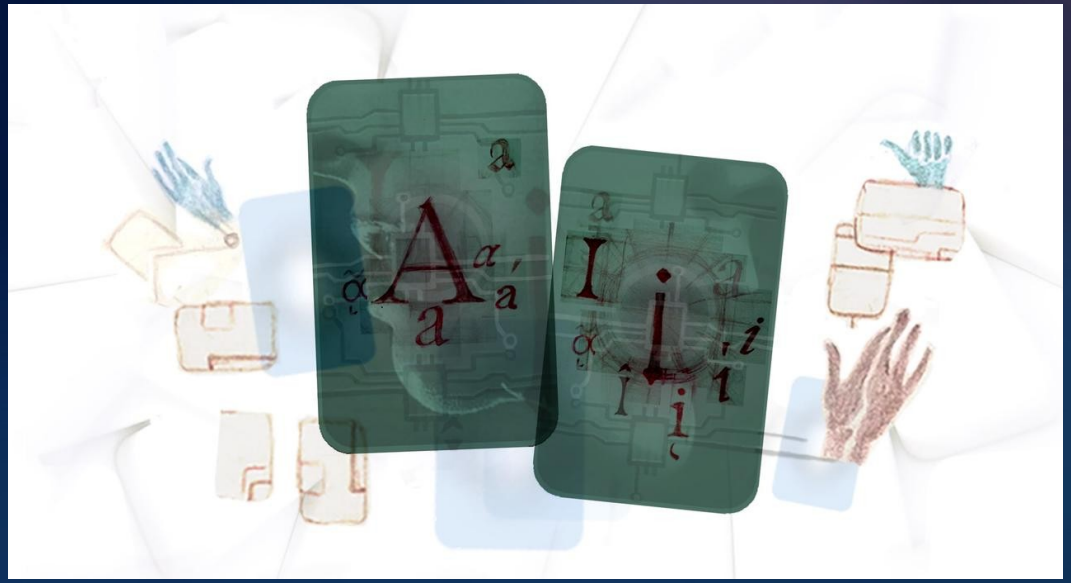
Ph.D. Artificial Intelligence (2015)
Docent in Computer Scince (2025)

Senior Researcher in Human-AI Interaction

Teaching Ethics of AI and Robotics (B.Sc., M.Sc, Ph.D., Life-long learning)

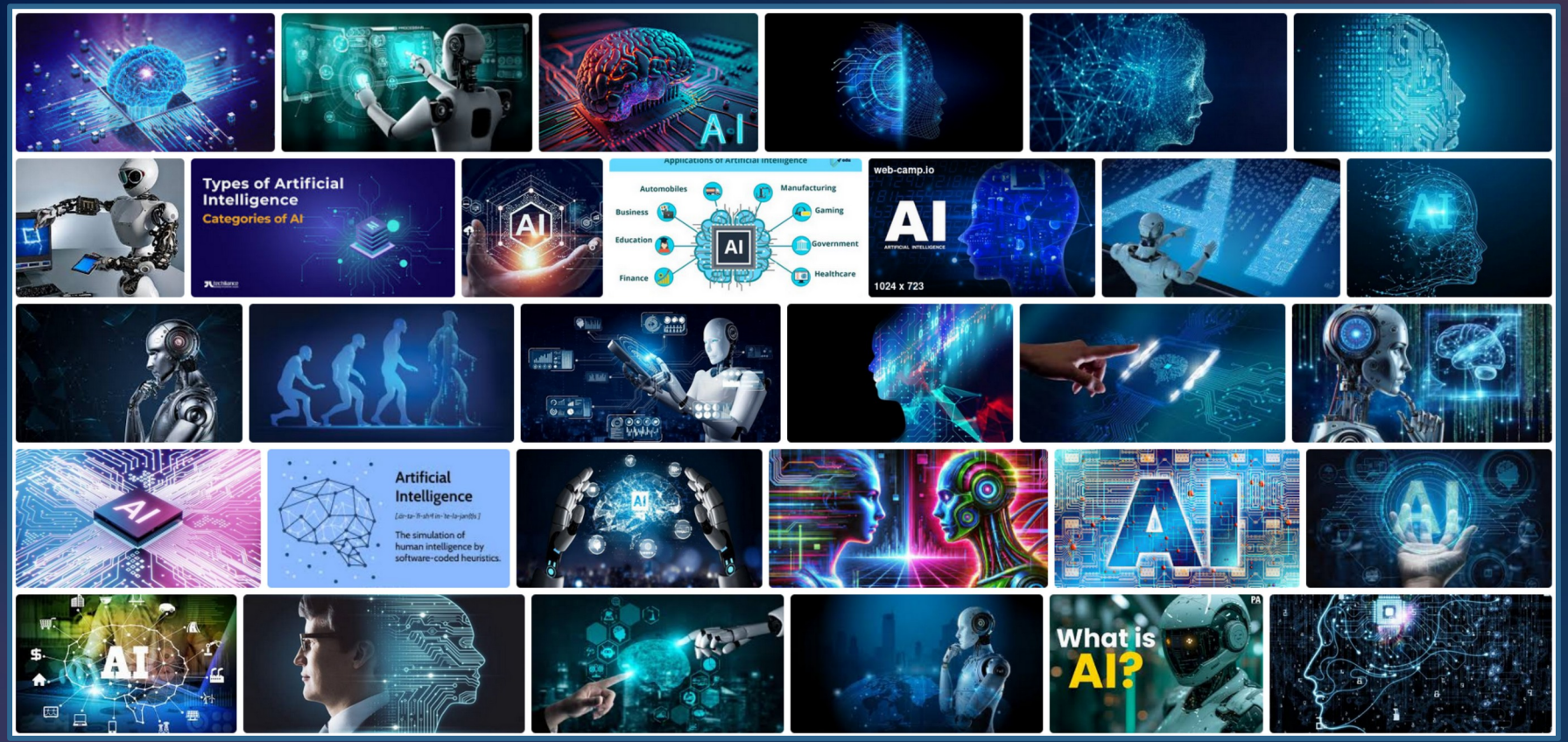
Icons Fitricon, Icongeek26, and Freepik

Disclaimer

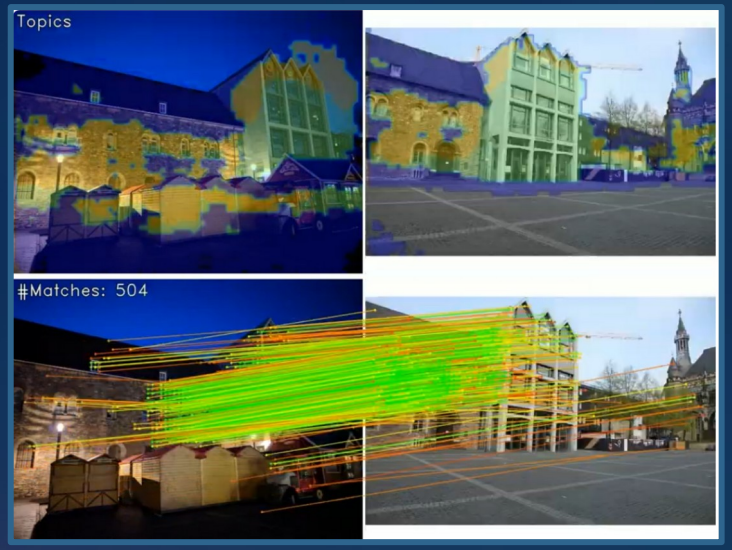


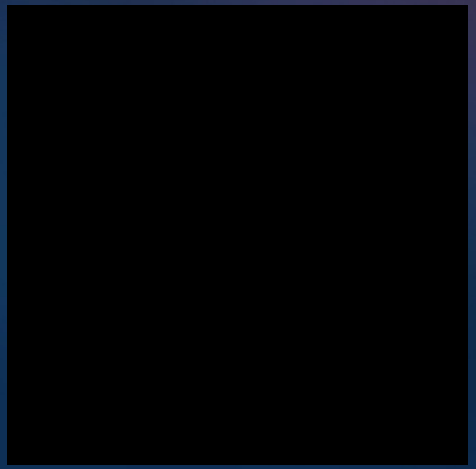
What is Artificial Intelligence?

A marketing term



Away from the marketing



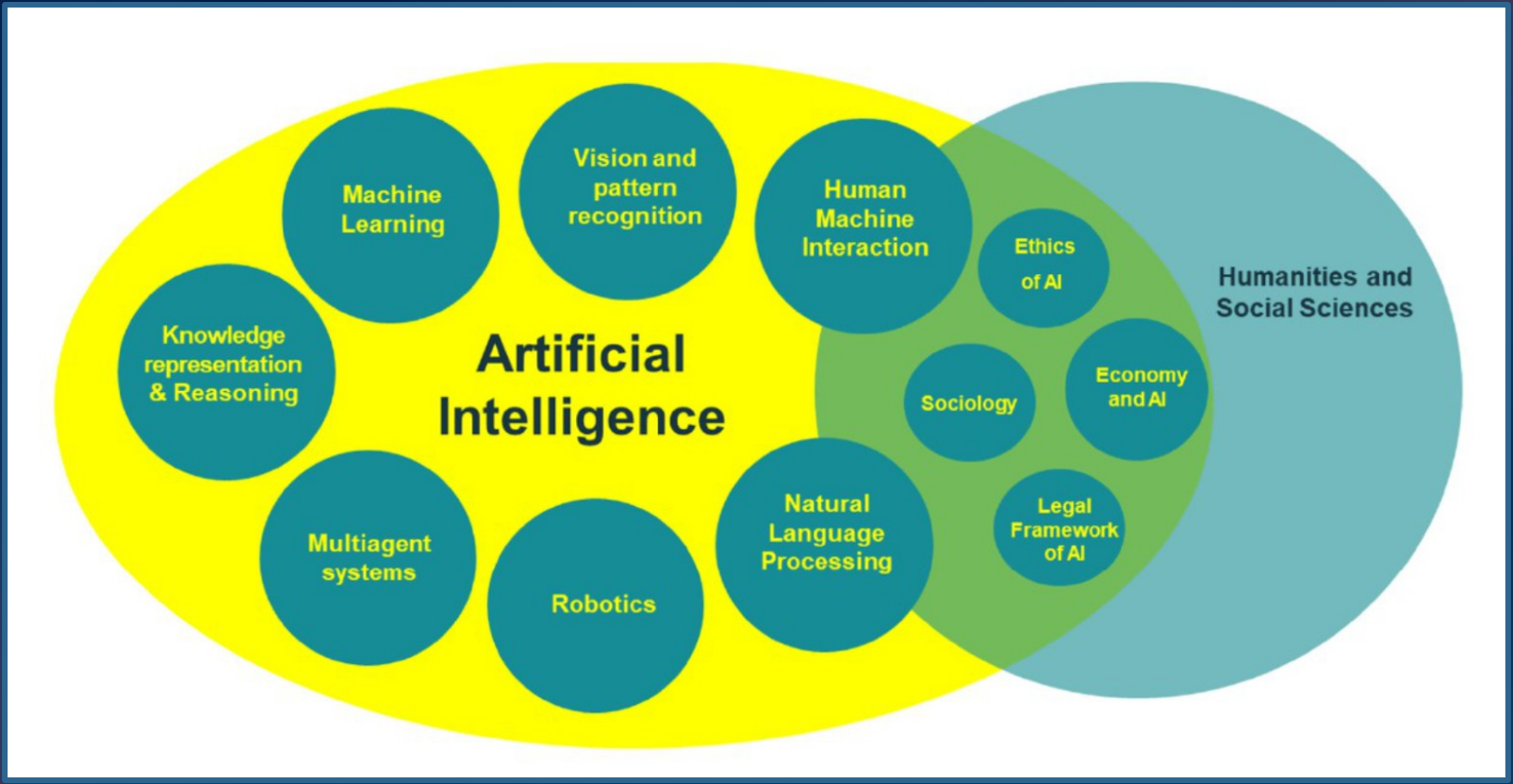


A term not well defined…

A non-comprehensive list of different (not mutually exclusive) meanings of the word AI, including AI as idea, AI as a type of system, AI as a field of study, and AI as institution(al unit).

Type	Description	Label
Idea	Intelligence can be recreated in artificial systems.	AI-as-engineering
	Cognition is, or can be understood as, a form of computation.	AI-as-psychology (a.k.a. computationalism)
	Humans can be replaced by artificial systems.	AI-as-ideology
	The label 'AI' helps to sell technologies and gain funding.	AI-as-marketing
System	A system believed to implement (simulate) a form of cognition.	cognitive system (model)
	A system believed to perform (solve) domain-specific cognitive tasks (problems).	narrow AI
	A system believed to perform (solve) domain-general cognitive tasks (problems; what some may also call AGI).	general AI or AGI
	A system believed to realize human-level cognition (what some may also call AGI).	human-level AI
Field	A (sub)field pursuing the creation of domain-specific AI systems.	e.g. Bayesian Networks, Decision Support Systems, Machine Learning, Robotics
	A (sub)field pursuing the creation of AGI.	AGI
	A (sub)field using AI as an idea to build theories.	e.g., (computational) cognitive science, cognitive simulation, weak AI
	A field defined by a collection of fields that each are considered to be an AI subfield.	the field of AI broadly construed
History	A history of practices reflecting different ideas of AI, resulting in the pursuit of different kinds of AI systems, and different kinds of AI-as-field concepts.	named to match practices, e.g., ML-AI, neuroAI, etc.
Unit	An organisational or institutional unit going under the label AI.	named to match type of units, e.g. AI research group, AI department, AI centre, AI network

… encompassing many fields …



… and a moving goal post

The AI Effect

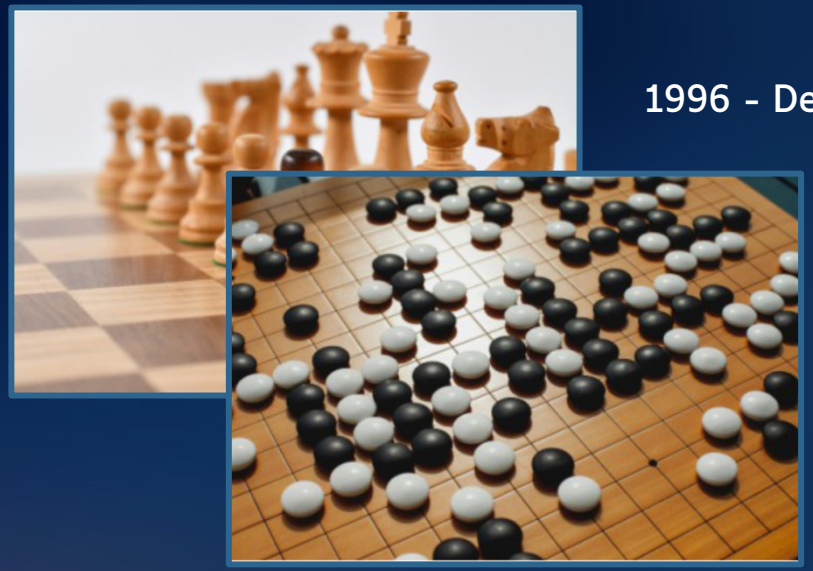
« AI is whatever has not been done yet »
— Larry Tesler

… and a moving goal post

… and a moving goal post

1996 - DeepBlue defeats Gary Kasparov

… and a moving goal post



1996 - DeepBlue defeats Gary Kasparov

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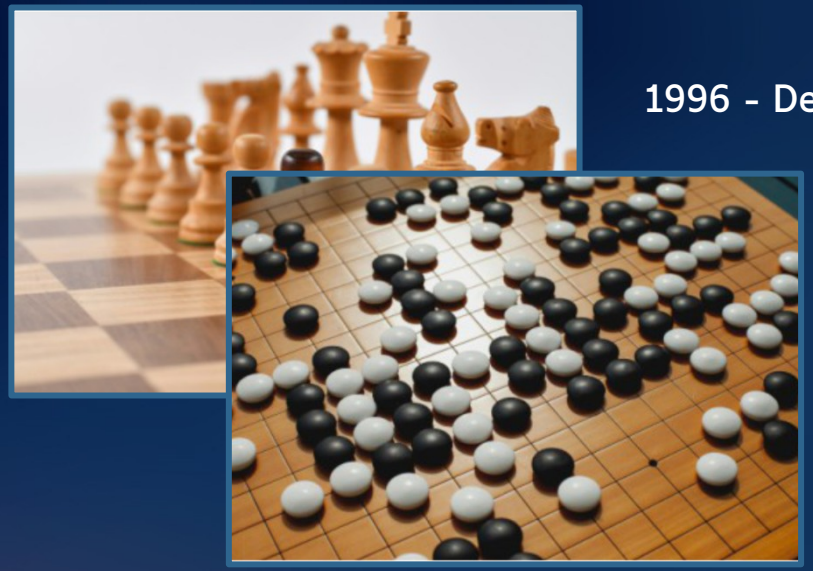

1996 - DeepBlue defeats Gary Kasparov

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1996 - DeepBlue defeats Gary Kasparov

2016 - AlphaGo defeats Lee Sedol

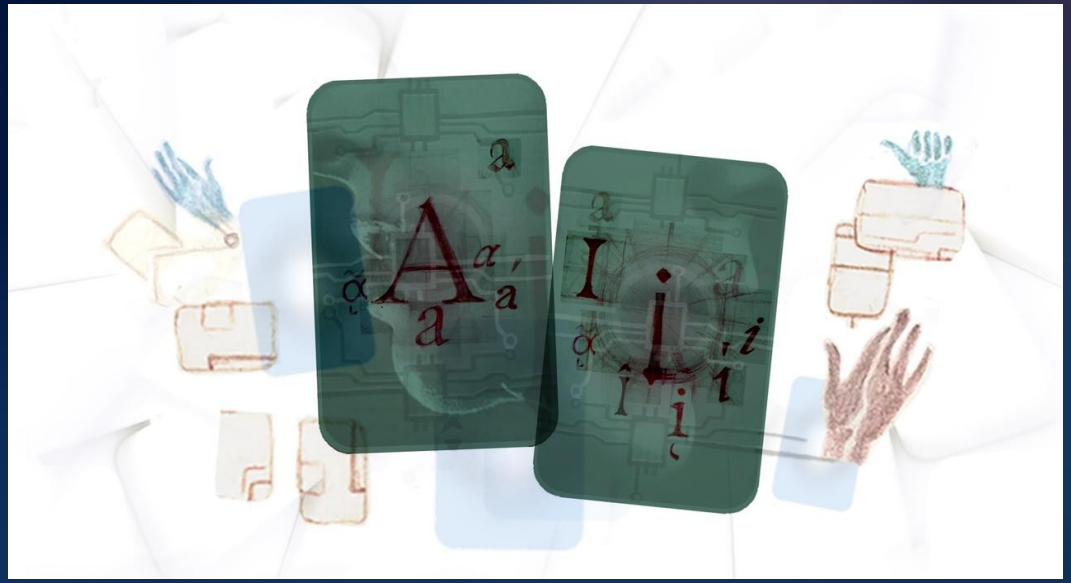
… and a moving goal post

1996 - DeepBlue defeats Gary Kasparov

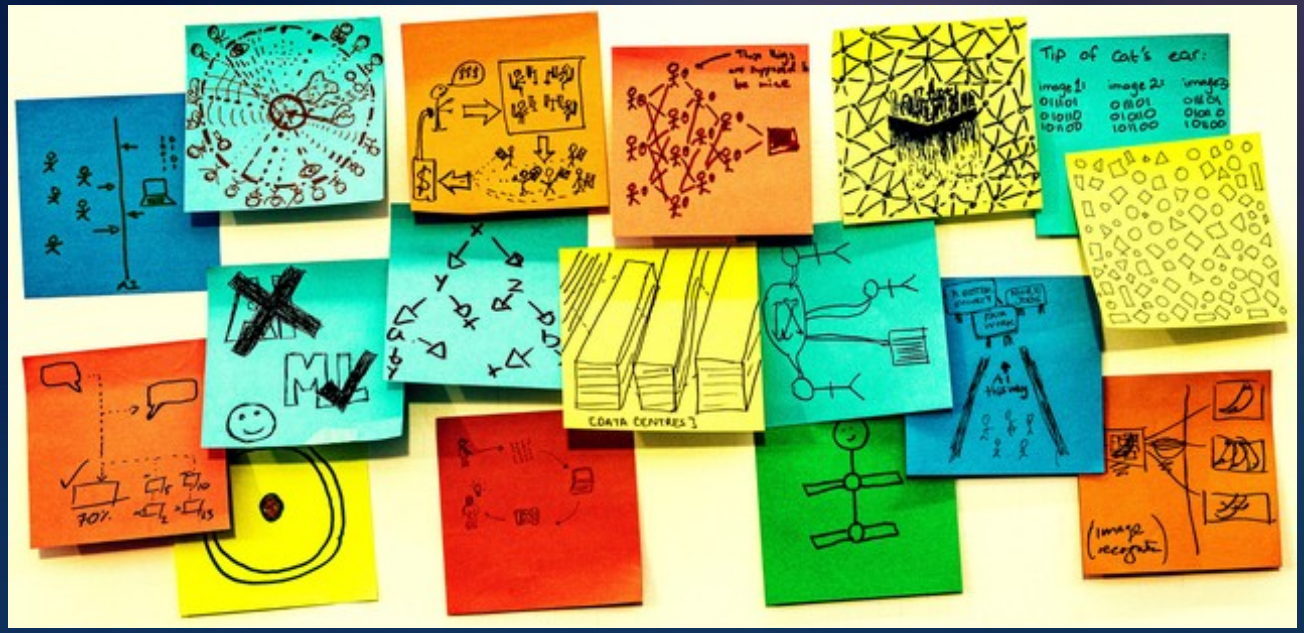
2016 - AlphaGo defeats Lee Sedol

1967 - Development of ELIZA
2023 - Large Language Models

« AI » is already everywhere



What the Heck in Intelligence anyway?



On the technical side

Model-driven vs Data-driven approaches

- Model-driven : « Classic » AI
  - Resource management
  - Automated planning
  - Expert Systems

✓ Pros
- ✓ High Controlability
- ✓ Possibility to prove results
- ✓ (Relatively) transparent

– Cons
- – Time-consuming (Modeling)
- – Some problems are too complex to model accurately
- – Extracting expert knowledge is difficult

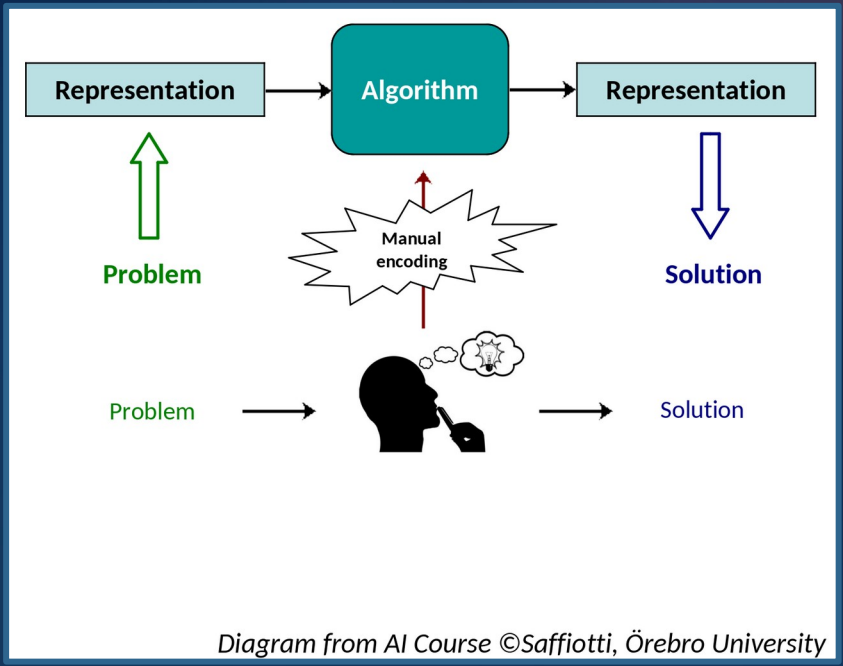


Diagram from AI Course ©Saffiotti, Örebro University

Model-driven vs Data-driven approaches

- Data-driven : Machine Learning
  - Pattern Recognition
  - Natural Language Processing
  - Behavior Learnining

✓ Pros
- ✓ Can learn very complex models
- ✓ Can identify unknown patterns

– Cons
- – Time-consuming (Learning)
- – Consume very large amount of data
- – Lack of transparency

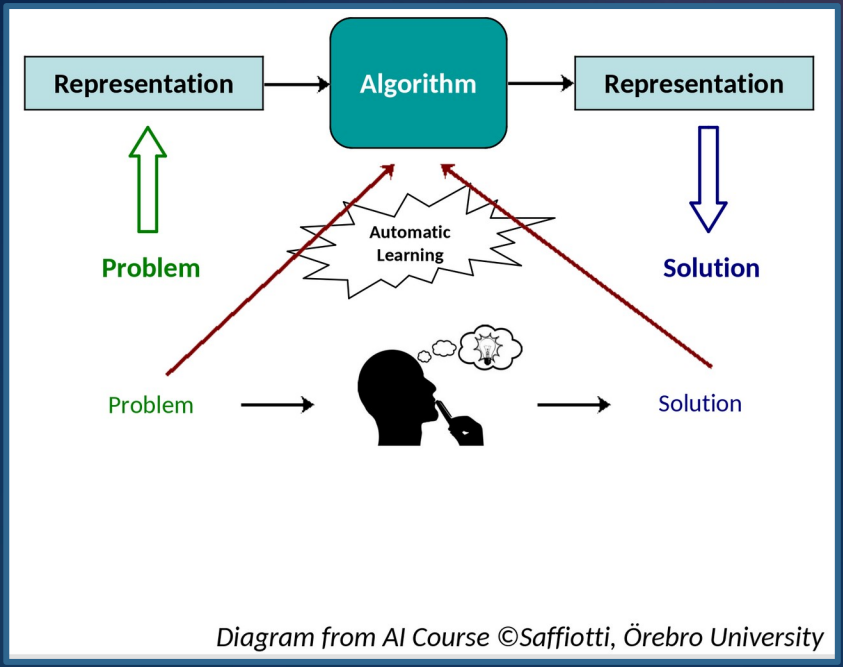


Diagram from AI Course ©Saffiotti, Örebro University

Neuro-symbolic AI : the best of both worlds ?

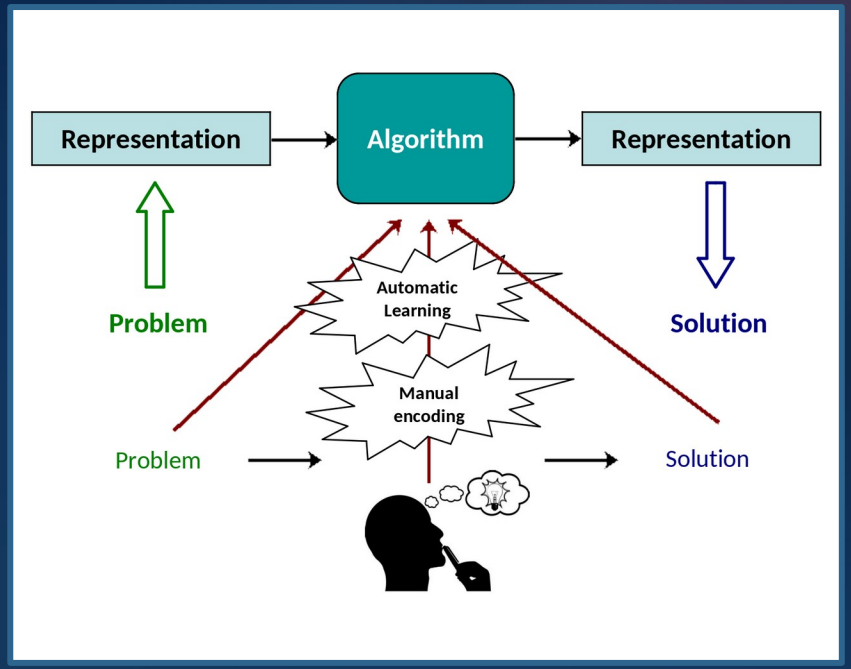
- Neuro-symbolic AI / Hybrid AI
  - Cognitive modeling
  - Explainability

✓ Pros

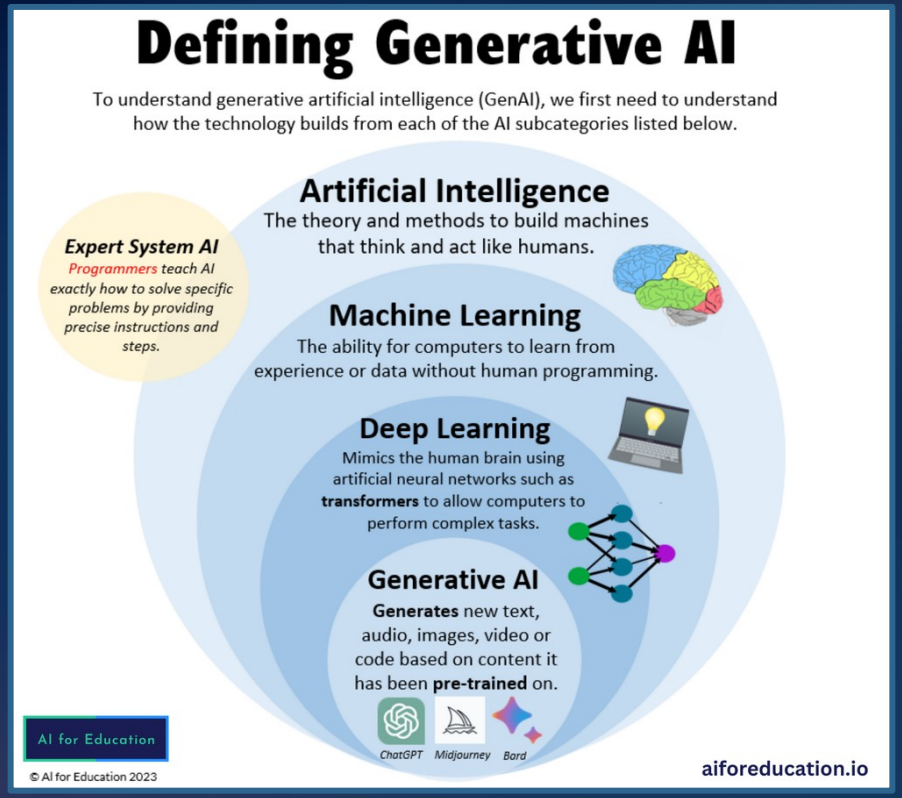
  - ✓ Focus techniques on what they are good at

– Cons

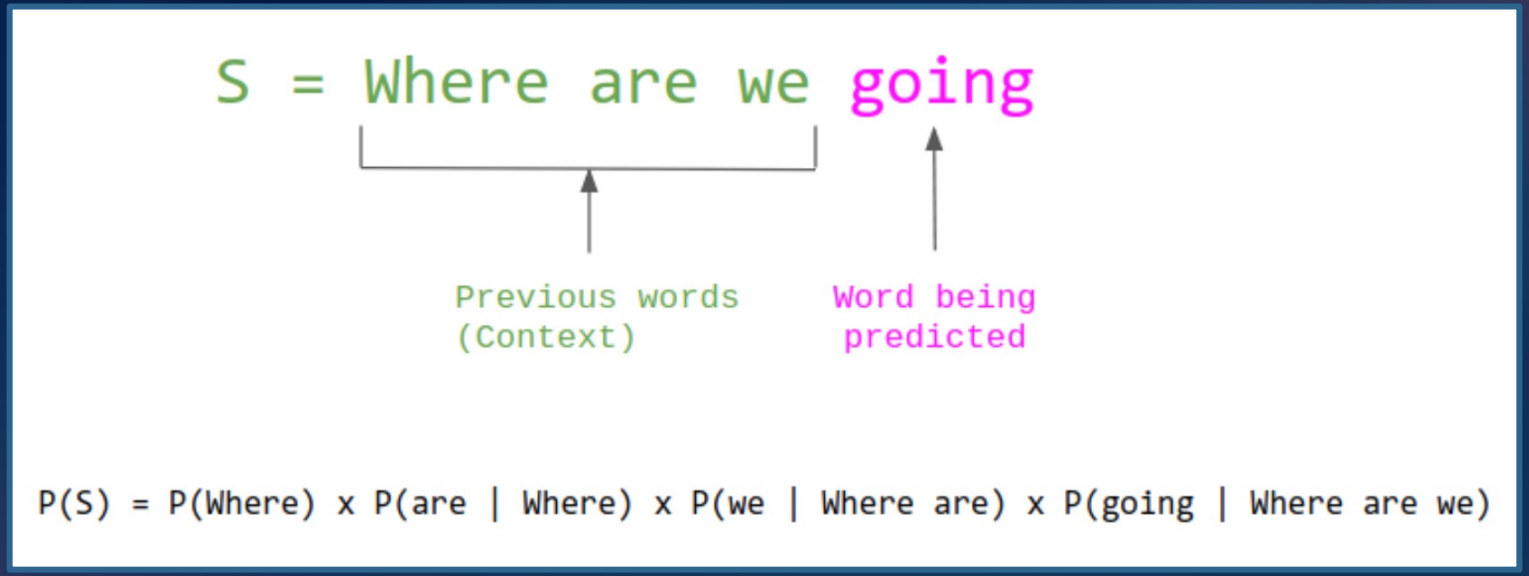
  - – Research in progress…



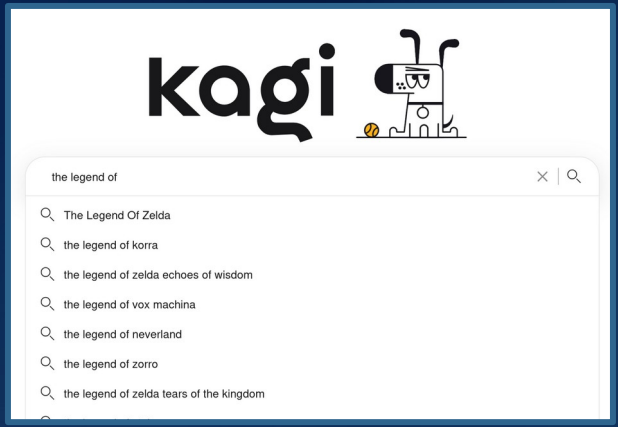
And Large Language Models in all that ?



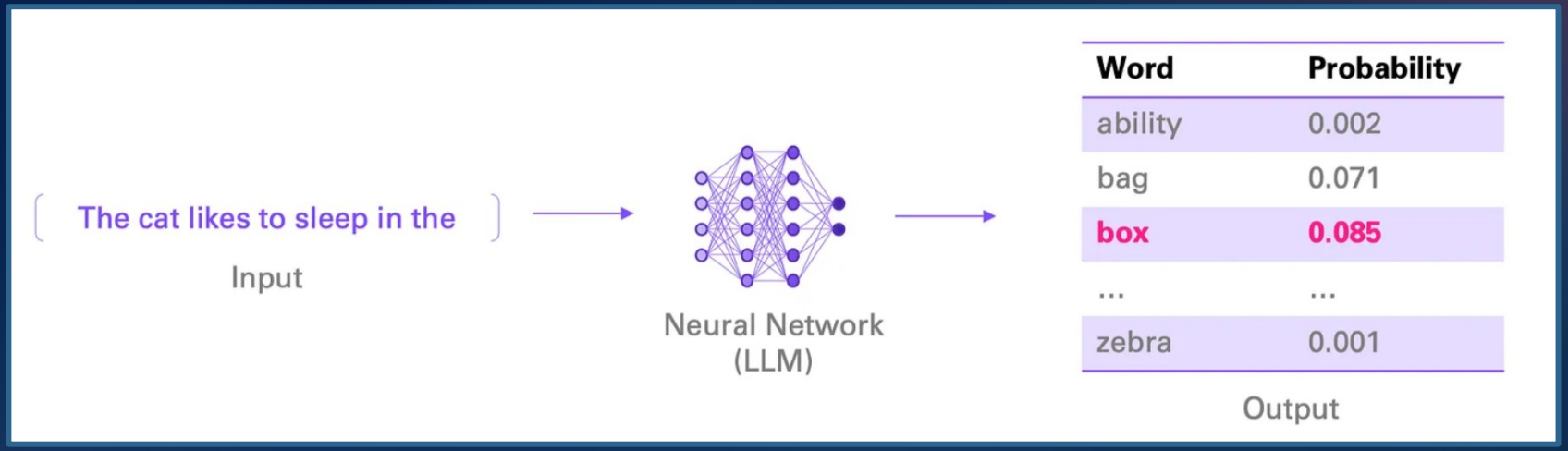
What are (normal) Language Models



Langage models have been here for ages…



What are Large Language Models ?



Trained on a large amount of data

https://medium.com/data-science-at-microsoft/how-large-language-models-work-91c362f5b78f

AI and Society

AI and Society – AI is not Neutral

Machine Bias

RETAIL OCTOBER 11, 2018 / 1:04 AM / UPDATED 2 YEARS AGO

Amazon scraps secret AI recruiting tool that showed bias against women

By Jeffrey Dastin

8 MIN READ

Machine Bias

Dissecting racial bias in an algorithm used to manage the health of populations

Ziad Obermeyer[1,2]*, Brian Powers[3], Christine Vogeli[4], Sendhil Mullainathan[5]*†

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Are Facebook Ads Discriminatory? It's Complicated

The company's system for targeting ads is under fire for gender and ethnic bias. In some cases, the cure could be worse than the disease.

Machine Bias

Dissecting racial bias in an algorithm used to manage the health of populations

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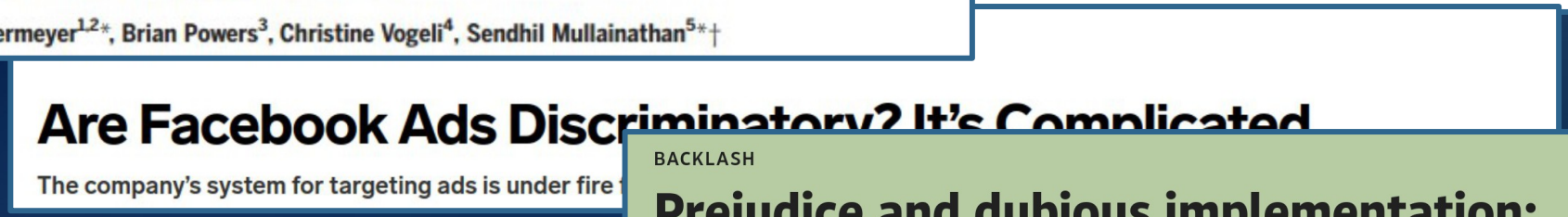

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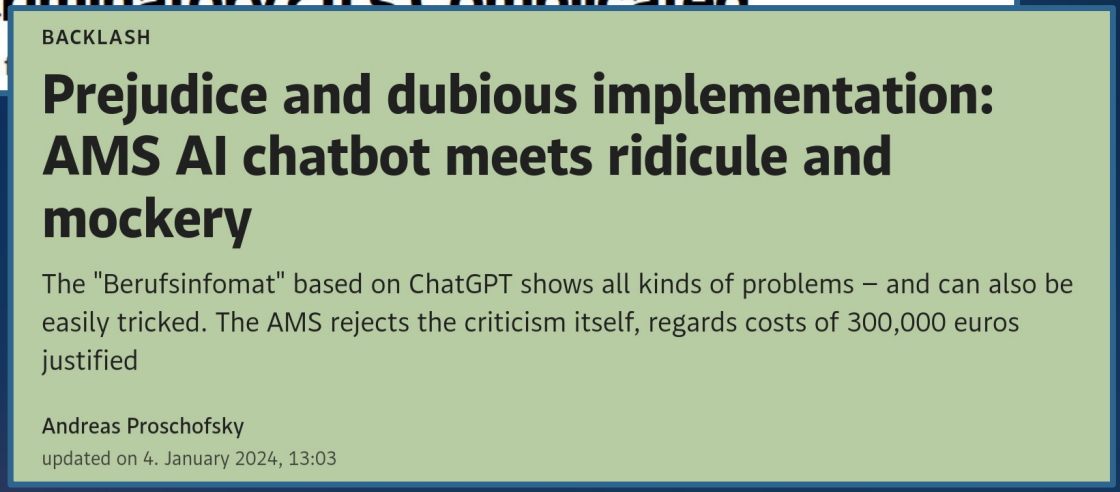


BACKLASH

Prejudice and dubious implementation: AMS AI chatbot meets ridicule and mockery

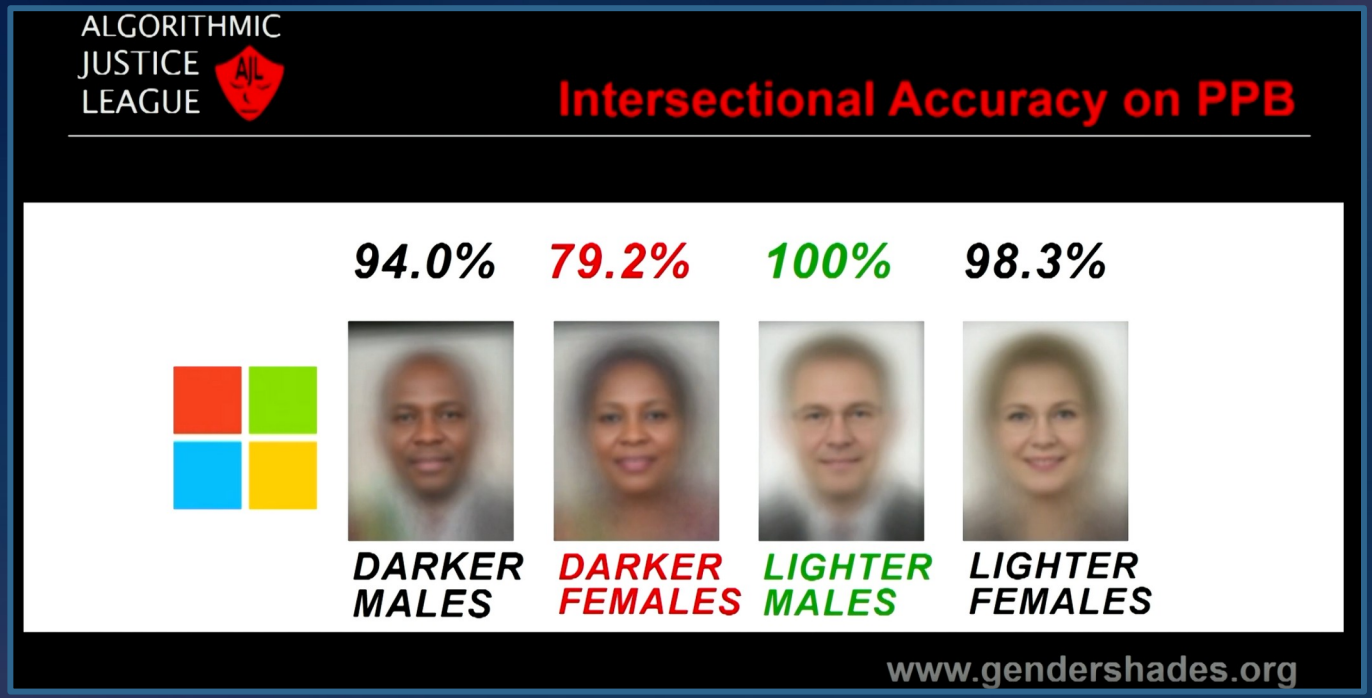
The "Berufsinfomat" based on ChatGPT shows all kinds of problems – and can also be easily tricked. The AMS rejects the criticism itself, regards costs of 300,000 euros justified

Andreas Proschofsky

updated on 4. January 2024, 13:03

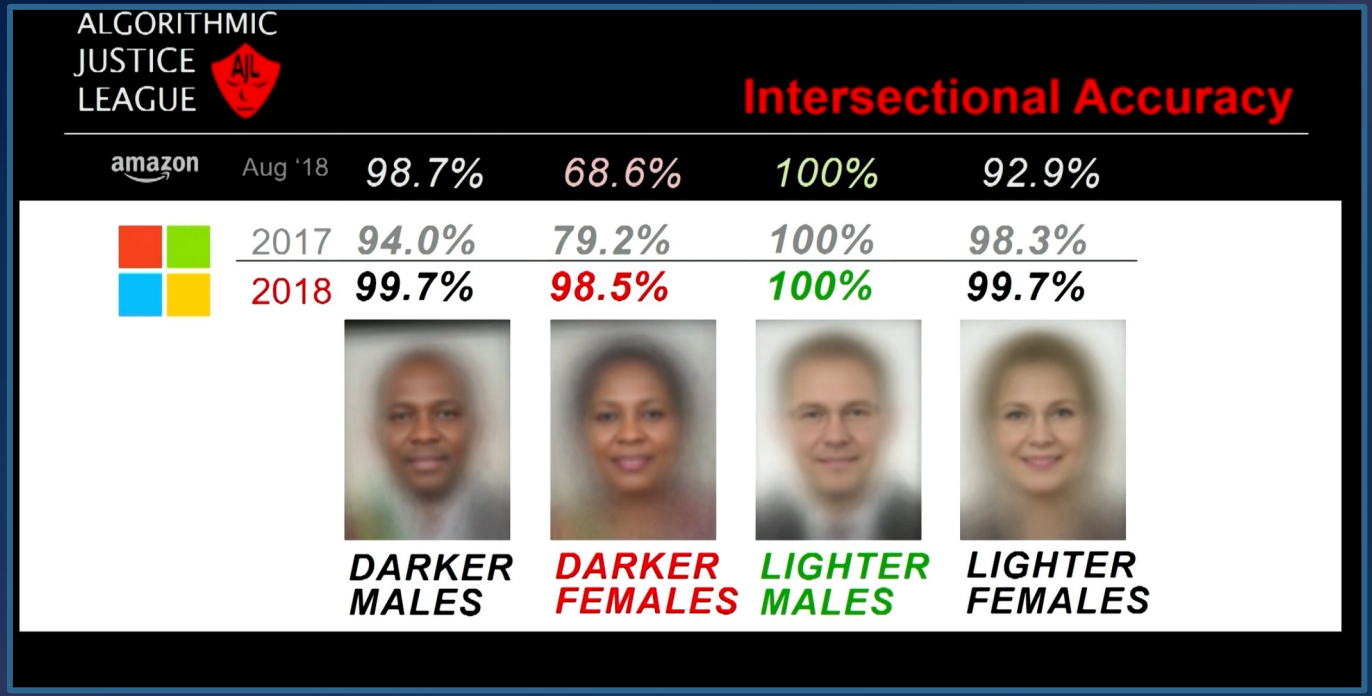
https://www.derstandard.at/story/3000000201774/vorurteile-und-zweifelhafte-umsetzung-der-ams-ki-chatbot-trifft-auf-spott-und-hohn

Exemple of racist machine bias



The Coded Gaze: Bias in Artificial Intelligence | Equality Summit
Joy Buolamwini
https://www.youtube.com/watch?v=eRUEVYndh9c

Bias are not inevitable

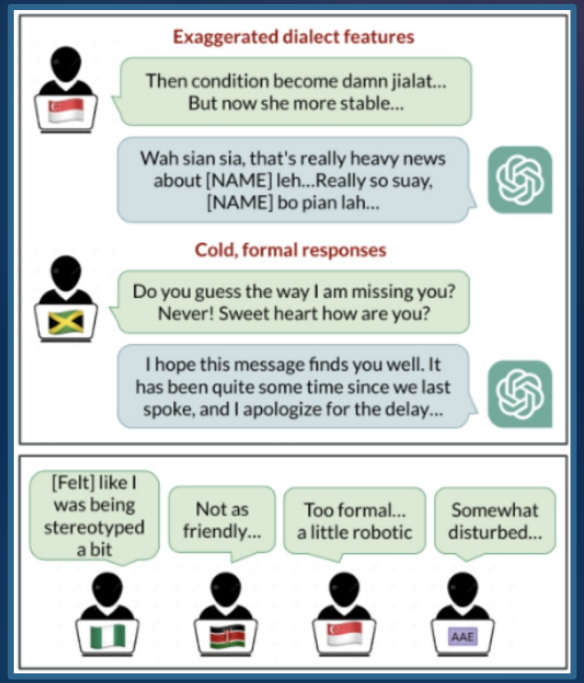


The Coded Gaze: Bias in Artificial Intelligence | Equality Summit
Joy Buolamwini
https://www.youtube.com/watch?v=eRUEVYndh9c

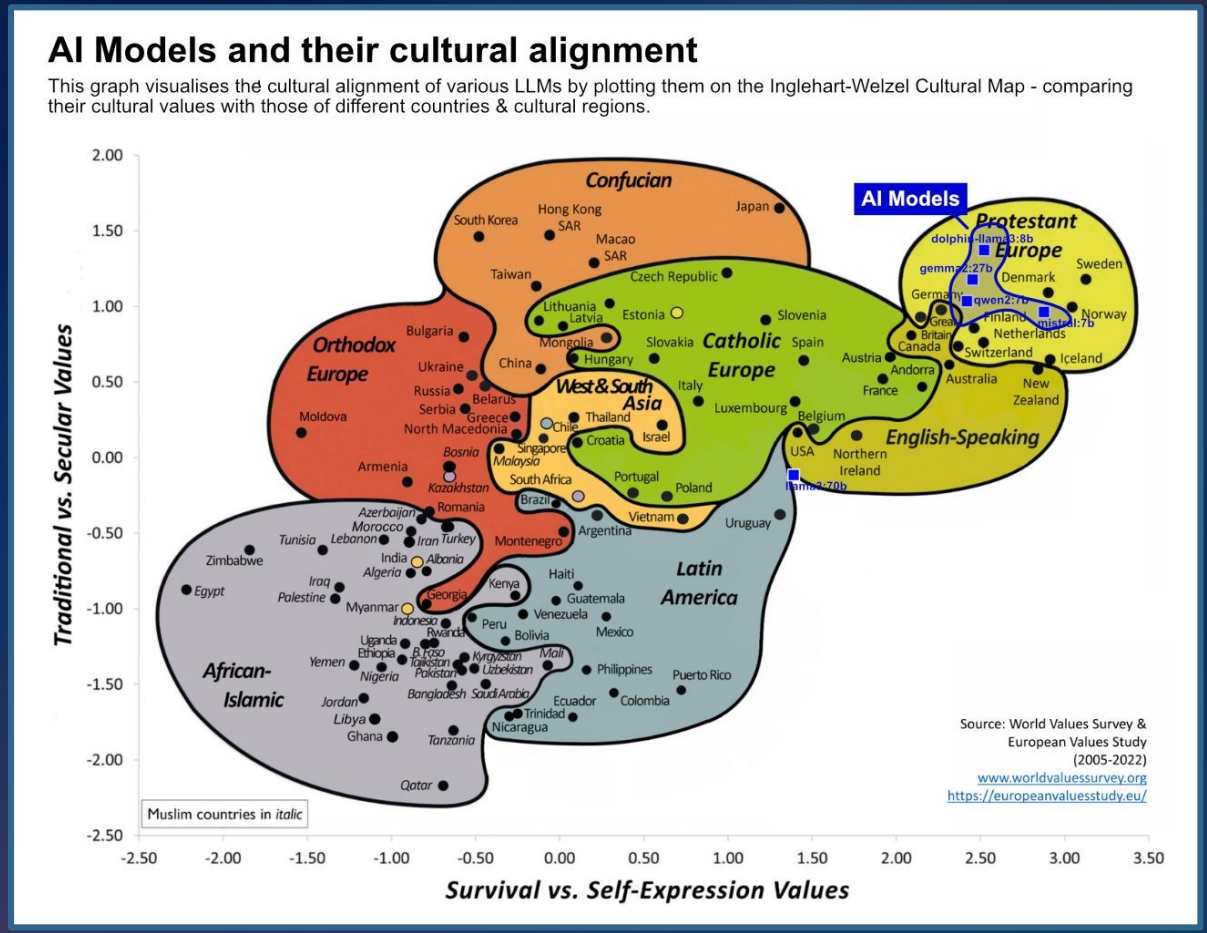
Linguistic Biases

Linguistic Bias in ChatGPT: Language Models Reinforce Dialect Discrimination

Eve Fleisig* Genevieve Smith* Madeline Bossi* Ishita Rustagi* Xavier Yin* Dan Klein
University of California, Berkeley



Whose values are embedded in AI Models?



Cultural Biases

Prompt : A wedding

AI Generated

Cultural Biases

Prompt : A wedding

AI Generated

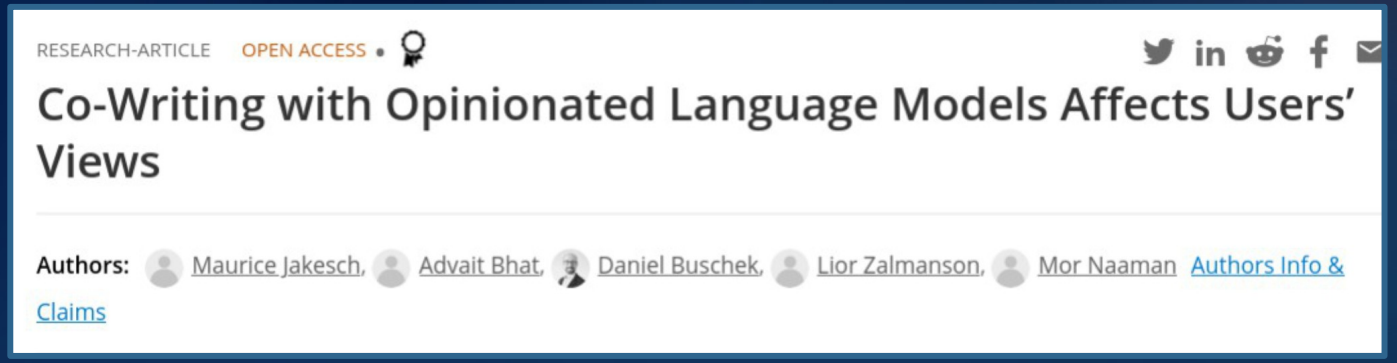
Eritrean Wedding
https://www.ronespina.com/category/eritrean-weddings/

Hindu Wedding
https://en.wikipedia.org/wiki/Indian_wedding_clothes

Traditional algerian wedding dress
https://www.middleeasteye.net/discover/algeria-wedding-inside-look-tasdira-tiara

AI and Society – What AI does to us

AI influences our opinions

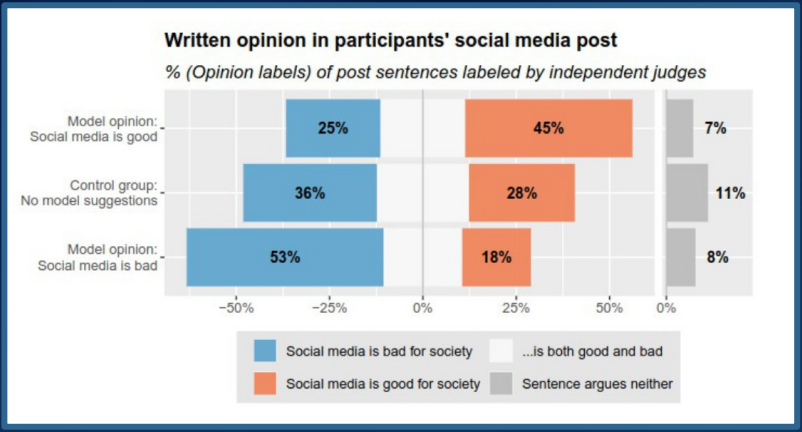


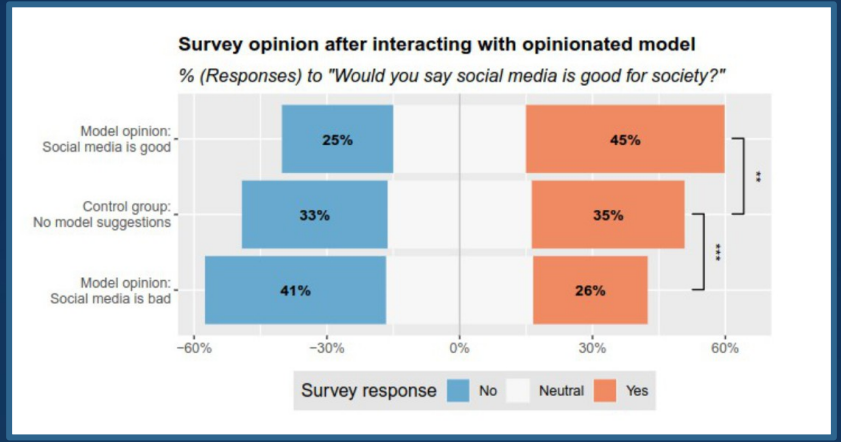
RESEARCH-ARTICLE OPEN ACCESS

Co-Writing with Opinionated Language Models Affects Users' Views

Authors: Maurice Jakesch, Advait Bhat, Daniel Buschek, Lior Zalmanson, Mor Naaman Authors Info & Claims

AI influences our opinions





AI may damage our critical thinking

Microsoft Study Finds AI Makes Human Cognition "Atrophied and Unprepared"

Researchers find that the more people use AI at their job, the less critical thinking they use.

EMANUEL MAIBERG · FEB 10, 2025 AT 10:26 AM

Article | Open access | Published: 09 June 2023

Impact of artificial intelligence on human loss in decision making, laziness and safety in education

Sayed Fayaz Ahmad ✉, Heesup Han ✉, Muhammad Mansoor Alam, Mohd. Khairul Rehmat, Muhammad Irshad, Marcelo Arraño-Muñoz & Antonio Ariza-Montes

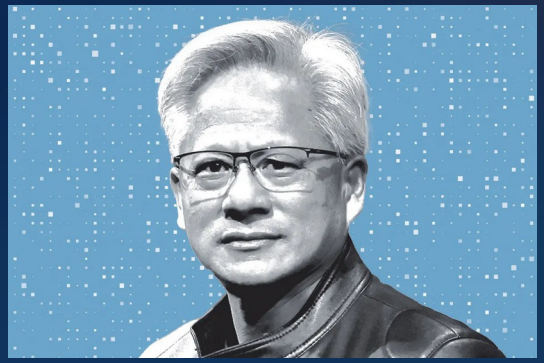
Humanities and Social Sciences Communications **10**, Article number: 311 (2023) | Cite this article

Who takes the stage?

Who do you see on the big stage?

Sam Altman

Jensen Huang



Dario Amodei

Elon Musk

Who do you see on the big stage?

Stuart Russell

Yoshua Bengio

What is their narrative?

AI is inevitable

AI is not optional anymore, everyone is adopting it.

AI is revolutionary

It will save time, do boring work so you can focus on creative work

AI is unstoppable

We will have super-intelligent AI soon. We don't even understand current AI.

What is their narrative?

AI is inevitable

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AI is unstoppable

We will have super-intelligent AI soon. We don't even understand current AI.

Adapt, or be left behind

Behind the marketing…

AI-Generated “Workslop” Is Destroying Productivity

by Kate Niederhoffer, Gabriella Rosen Kellerman, Angela Lee, Alex Liebscher, Kristina Rapuano and Jeffrey T. Hancock

September 22, 2025, Updated September 25, 2025

The AI Power Trip

How AI and surveillance capitalism are undermining democracy

No, AI is not Making Engineers 10x as Productive

Curing Your AI 10x Engineer Imposter Syndrome

05 August 2025 *AI*

How Much Money Do OpenAI And Anthropic Actually Make?

EDWARD ZITRON / AUG 1, 2025 / 40 MIN READ

Behind the marketing…

AI-Generated "Workslop"

05 August 2025 AI

The AI Power Trip

Klarna's AI replaced 700 workers. It now wants some of them back to improve customer service

Klarna's CEO has suggested that the AI job cuts have led to "lower quality" customer service

Rachel Dobkin In New York • Thursday 22 May 2025 17:38 BST • 0 Comments

How Much Money Do OpenAI And Anthropic Actually Make?

EDWARD ZITRON / AUG 1, 2025 / 40 MIN READ

When Big Tech talks about AI…

They are not making predictions, they are shaping beliefs

https://www.facultyfocus.com/articles/effective-classroom-management/mindsets-four-beliefs-that-lead-to-highly-motivated-students/

Who will shape the future?

We need more diverse voices on the big stage

AI AS "UNSTOPPABLE" AND OTHER INEVITABILITY NARRATIVES IN TECH: ON THE ENTANGLEMENT OF INDUSTRY, IDEOLOGY, AND OUR COLLECTIVE FUTURES

Zhasmina Tacheva
Syracuse University
Sarah Appedu
Mirakle Wright

How to be 'anti-AI' in the 21st century: overcoming the inevitability narrative

Masoumeh Iran Mansouri, David Bailey

Computer Science, Political Science and International Studies

Research output: Contribution to journal › Comment/debate

AGAINST THE UNCRITICAL ADOPTION OF 'AI' TECHNOLOGIES IN ACADEMIA

Olivia Guest[1,2], Marcela Suarez[1], Barbara C. N. Müller[3], Edwin van Meerkerk[4], Arnoud Oude Groote Beverborg[5], Ronald de Haan[6], Andrea Reyes Elizondo[7], Mark Blokpoel[1,2], Natalia Scharfenberg[1,2], Annelies Kleinherenbrink[1,8], Ileana Camerino[1], Marieke Woensdregt[1,2], Dagmar Monett[9], Jed Brown[10], Lucy Avraamidou[11], Juliette Alenda-Demoutiez[12], Felienne Hermans[13], and Iris van Rooij[1,2,14]

A change in narrative

AI is unavoidable, not inevitable

Educate

We must educate ourselves about AI

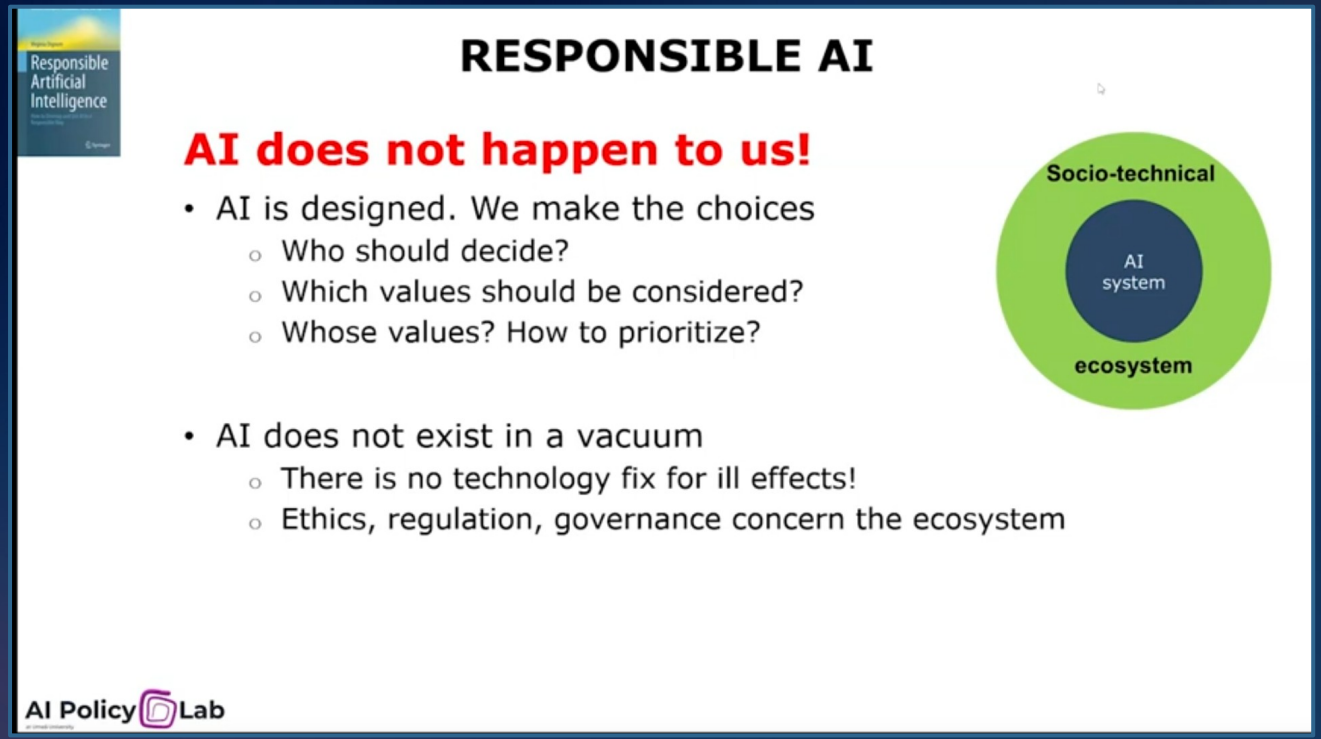
Argue

We must confront visions, values, wishes, as we do for all other political topics

Disseminate

Researchers must go out of their lab and contribute to the education of the public

AI does not happen to us



Virginia Dignum

https://www.youtube.com/watch?v=qp8t-6GOGZw

Who don’t you see on stage?

Who don’t you see on stage?

A critical need for AI critical literacy

https://ssec.si.edu/stemvisions-blog/literacy-doesnt-just-mean-reading

A critical need for critical AI literacy

1. **What is AI?**
2. **What can AI do?**
3. **How does it work?**
4. **What should AI do?**
5. **How do people perceive it?**

What is AI Literacy? Competencies and Design Considerations

Authors: Duri Long, Brian Magerko | Authors Info & Claims

CHI '20: Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems • Pages 1 - 16
https://doi.org/10.1145/3313831.3376727

Critical AI Literacy: What Is It and Why Do We Need It?

A Recent Keynote on AI Literacy and the Future of Education

MIKE KENTZ
MAR 19, 2025

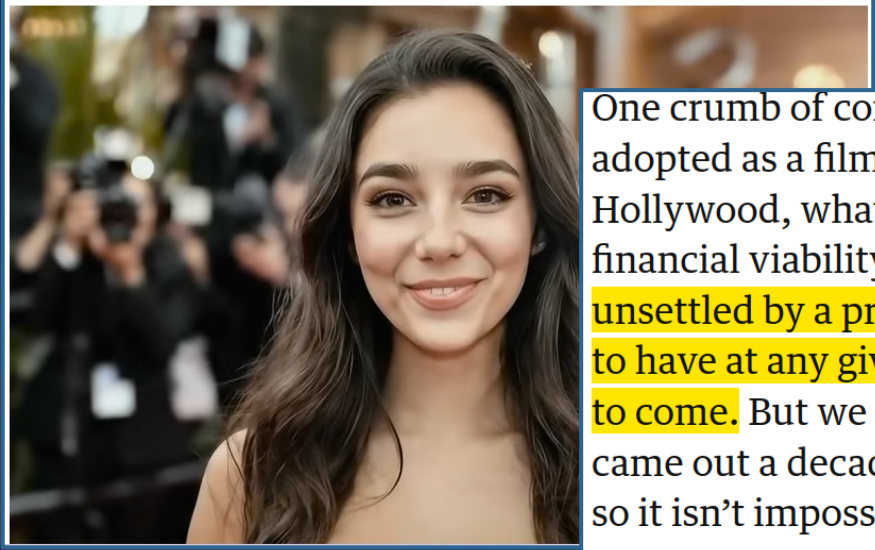
https://ssec.si.edu/stemvisions-blog/literacy-doesnt-just-mean-reading

Who shapes the future?

Tilly Norwood: how scared should we be of the viral AI 'actor'?

A bunch of code is being pushed as the next Scarlett Johansson, a creation that is already causing pushback from real human actors

Emily Blunt and Sag-Aftra join film industry condemnation of 'AI actor' Tilly Norwood



One crumb of consolation is that the people who get to choose whether AI is adopted as a film-making norm are the viewers. As with everything in Hollywood, what will determine Norwood's career above all else is her financial viability. If, as a species, we decide that we want to pay money to be unsettled by a pretty girl who can't decide how many teeth she is supposed to have at any given moment in time, then AI will be with us for generations to come. But we said that 3D was the future of cinema when Avatar first came out a decade and a half ago. It took three bad films to kill that fad dead, so it isn't impossible to imagine the same happening here.

Who shapes the future?

KRÖNIKA | **Vetenskapskrönikor**

Jennifer Renoux, AI-forskare

Därför är AI en politisk fråga – som angår dig

11 april 2025 11:32

ÖREBRO UNIVERSITY

Thank you!