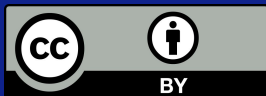




AI for Culture and Culture for AI

Johan Oomen
Netherlands Institute for Sound & Vision
joomen@beeldengeluid.nl

20 March 2024 - Brussels
Museums Paving the Way in an AI-driven Society



Media Museum Hilversum



Archive

Over a millions hrs of AV
Grows daily
(38 petabyte)



Research & Development





Steven Claeysens

@sclaeysens



At last, an opportunity to repost this meme. 'AI also has a lot to learn from culture'. Cultural AI Lab introduced by [@victordeboer](#)

[#EuropeanaTech2023](#)

[cultural-ai.nl](#)



👉 Take away message

11:07 AM · Oct 12, 2023 · 683 Views



Steven Claeysens

@sclaeysens



At last, an opportunity to repost this meme. 'AI also has a lot to learn from culture'. Cultural AI Lab introduced by [@victordeboer](#)

[#EuropeanaTech2023](#)

[cultural-ai.nl](#)

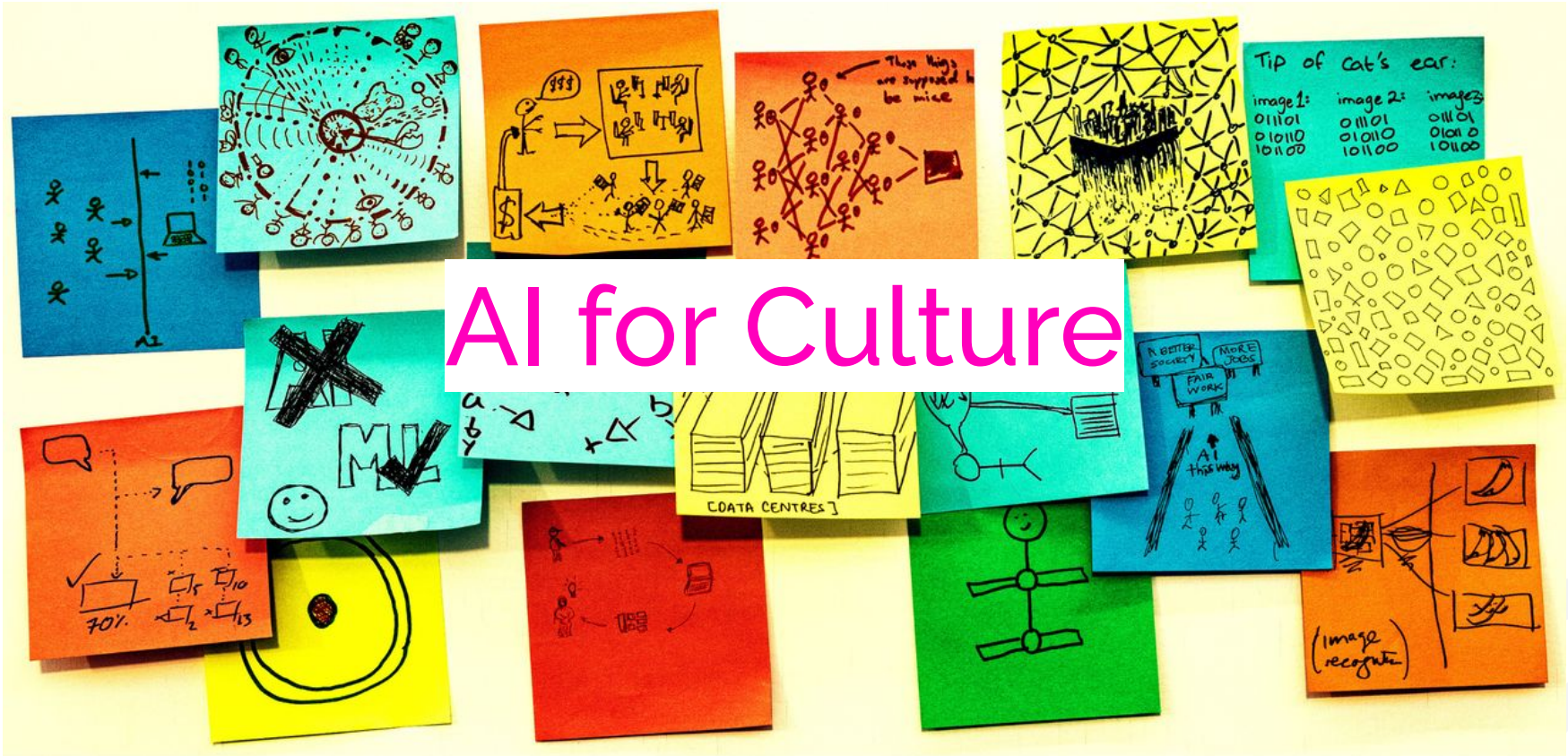


11:07 AM · Oct 12, 2023 · **683** Views



<https://nlaic.com/en/toepassingsgebied/culture/>

AI for Culture



ASSET: BLAUW_BLOED_-_WON01087445.MXF



TJD *** DUUR
19:25:21:09 00:35:36:04



- 19:21:44:00 - 19:21:44:12 [face-labels] Willem-Alexander (koning Nederland)
- 19:22:04:07 - 19:22:04:19 [face-labels] Willem-Alexander (koning Nederland)
- 19:22:46:23 - 19:22:52:15 [face-labels] Willem-Alexander (koning Nederland)
- 19:22:55:19 - 19:22:57:07 [face-labels] Willem-Alexander (koning Nederland)
- 19:24:00:06 - 19:24:02:07 [face-labels] Snel, Jeroen
- 19:24:24:17 - 19:24:29:08 [face-labels] Snel, Jeroen
- 19:25:21:09 - 19:25:26:13 [face-labels] Willem-Alexander (koning Nederland)
- 19:25:22:23 - 19:25:26:13 [face-labels] Snel, Jeroen
- 19:27:58:10 - 19:28:00:11 [face-labels] Willem-Alexander (koning Nederland)
- 19:28:53:00 - 19:29:00:06 [face-labels] Snel, Jeroen

FACE RECOGNITION

OBJECT CLASSIFICATION

Object detection

Classification

Five most dominant colours

Top 5 Objects

monitor	21%
CRT screen	12%
desk	9%
desktop computer	5%
television	4%

Top 5 Places

/o/office	48%
/n/home_office	17%
/o/office_cubicles	6%
/o/computer_room	3%
/e/rt_studio	3%

PARIS

VIDEO OCR

FRANCOIS PICARD
@FrancoisF24

THE DEBATE

FRANCE 24

Search

VisXP-test

Sound and Vision Archive - Television 707.975

CLEAR SEARCH SAVE QUERY

elfstedentocht in Select...

Lock facet selections Only resources with keyframes EXPERIMENTAL

Select date field

Select keyword field Max keyword values to display: 20

Results 65 + ADD A NEW FACET

mediaType	
Search facet ...	2 terms
Empty field	0
video	65

Broadcaster	
Search facet ...	11 terms
Empty field	0
avro	1
nrcv	4
nos	42
nps	1
nts	3

SHOW MORE +

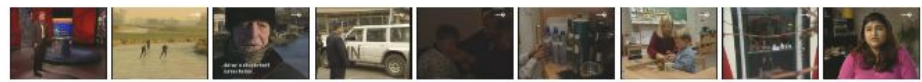
Genre (series)	
Search facet ...	10 terms

1 2 3 4

NETWERK
 de volgende onderwerpen: 1. Friesland hoopt op **Elfstedentocht**; 2. ex-spion Stasi werkt als VN-wapeninspecteur in Irak; 3. opvanghuis Rode Kruis voor ernstig zieke kinderen.

Topic - organisation - Scene Description: **Elfstedentocht**,
playableContent.segments.title: FRIESLAND HOOPT OP ELFSTEDENTOCHT,
Description - Scene Description: Nav de afgelopen felle vorstperiode is in Friesland de hoop ontstaan dat er binnenkort weer een **Elfstedentocht** kan worden gehouden. Volgens de
Summary: volgende onderwerpen: 1. Friesland hoopt op **Elfstedentocht**; 2. ex-spion Stasi werkt als VN-wapeninspecteur in Irak; 3. opvanghuis Rode Kruis voor ernstig zieke kinderen.,
Title - Scene Description: FRIESLAND HOOPT OP ELFSTEDENTOCHT

2002-12-11 5 matches in archival metadata 237 Keyframes

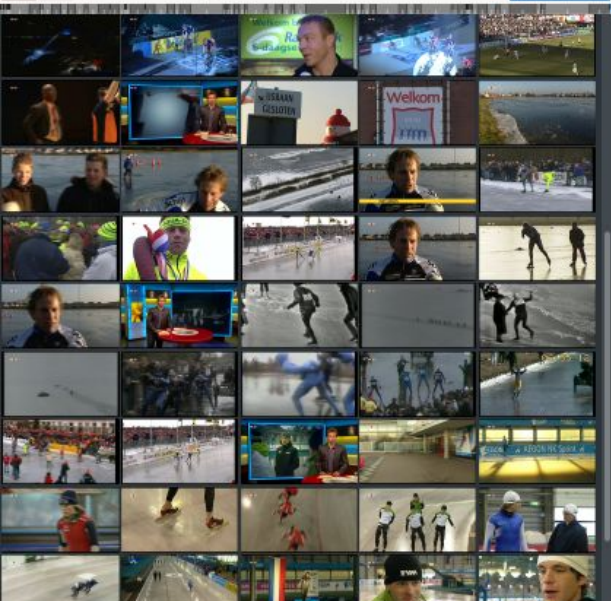


NETWERK
 Deze aflevering onder redactie van de NCRV en gepresenteerd door Aart Zeeman, met de volgende onderwerpen:

Text - Speech recognition: Dag dames en heren goedenavond de kabinetsformatie minister van ardenne over misbruik door vn soldaten en een nieuwe **elfstedentocht**. Komende zaterdag vier januari de vijftiende **elfstedentocht** verreden. We hadden in de periode tussen drieënzig en vijf en tachtig tweeëntwintig jaar geen **elfstedentocht**, maar toen waren die winters toch hebben



84 / 84 15:08.53 AUDIO



Related keyframes

Layout Grid 123 AUDIO

Scope All data Filter... 100 / 0 Include current resource Distinct



DE WERELD DRAAIT DOOR 2009-04-16 35:18



DE WERELD DRAAIT DOOR 2009-10-16 24:50



STUDIO SPORT Zondagmiddag 2010-01-31 29:09



DE WERELD DRAAIT DOOR 2007-10-29 16:13



DE WERELD DRAAIT DOOR 2010-02-01 05:55



STUDIO SPORT Zondagmiddag 2010-01-31 47:19



STUDIO SPORT Zondagmiddag 2010-01-31 17:44



JOURNAAL 9 uur Journaal 2008-10-24 08:32



STUDIO SPORT Zondagmiddag 2010-01-31 17:58



JOURNAAL Laat Journaal 2011-06-07 16:15



JOURNAAL Laat Journaal 2011-06-07 06:40



JOURNAAL 20 uur Journaal 2009-01-07 13:32



NIEUWSUUR 2010-12-22 12:29



DE WERELD DRAAIT DOOR 2009-03-09 04:21



JOURNAAL Laat Journaal 2011-06-07 16:31



Data Stories

Stories from Dutch multimedia archives, powered by the Media Suite

[read more](#)

Factual divergences in Dutch television news: comparisons between AIDS/HIV, SARS and COVID-19 news reportings

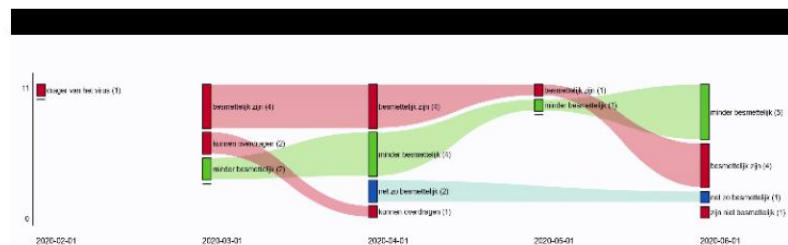
July 07, 2020

by Emillie de Keulenaar and Ivan Kisjes

Natural Language Processing

Are children contagious?

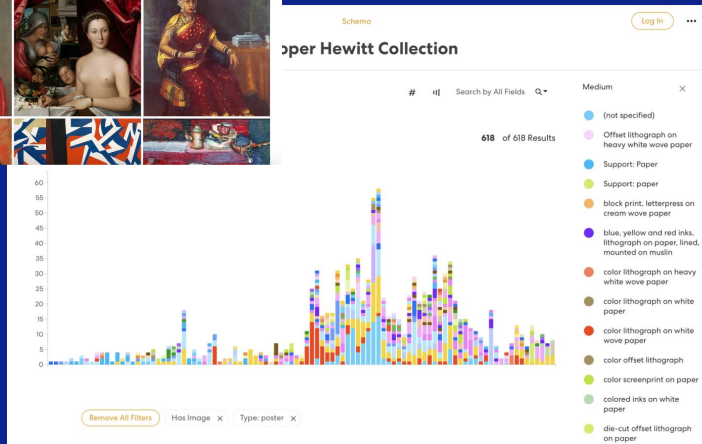
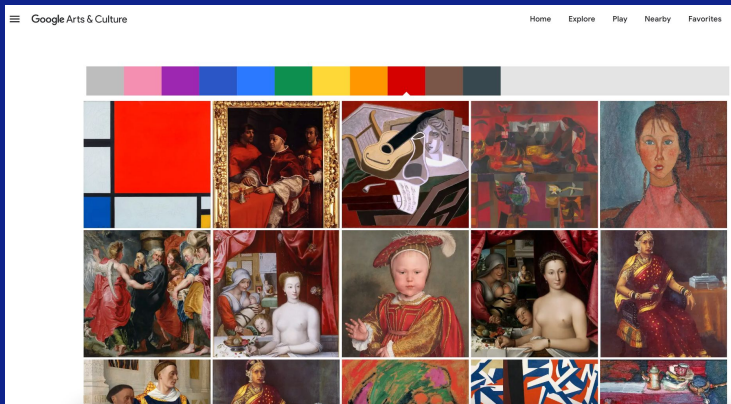
In the Netherlands, there has been significant debate as to whether children are contagious and should be kept from going to school. The transcripts reflect a somewhat nuanced discussion about this matter, with varying affirmations on the extent to which children can or cannot infect others. Early in March, statements reflect both suspicions that children are infectious, or that, all things considered, they may be less contagious. In June, the latter statement becomes more frequent than the former affirmation. Finally, these two statements wrestle between April and June with an intermediary proposition that children are as contagious as adults.



Children and transmission - COVID-19



Generous Interfaces





530

thema's

Economie

Energie

Europa

Geid

Geopolitiek

Gezondheid

Identiteit

Internet

Klimaat

Media

Migratie

Onderwijs

Politiek

Protest

Religie

Samenleving

Technologie

Voedsel

Werk

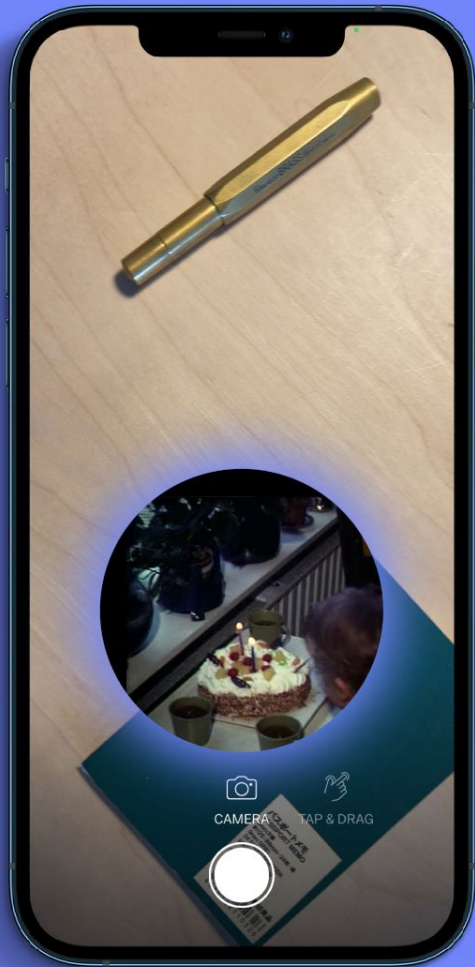
Wonen



weergave

→ tijddlijn ★

⌘ clusters ★



AOM





AI4Media Results in Brief: AI for Audiovisual Archives

Current Challenges and Future Paths

Authors:

Anna Schjelt Hansen, University of Amsterdam, Rens Booyte and Johan Oomen, Netherlands Institute for Sound & Vision, Lidia Dufkiewicz, KU Leuven, Georg Thallinger, Joanneum Research.

The report provides insights into the current challenges, potentials and good practices for implementing and using artificial intelligence (AI) in audiovisual archives in the Balkan and Mediterranean region, which previously has been less explored in AI4Media research. It is based on a workshop organised in March 2023 with seven audiovisual archives from the region.

<https://tinyurl.com/AI4MEDIAAV>



Review

Artificial Intelligence for Digital Heritage Innovation: Setting up a R&D Agenda for Europe

Sander Münster^{1,*}, Ferdinand Maiwald², Isabella di Lenardo³, Juha Henriksson⁴, Antoine Isaac⁵, Manuela Milica Graf^{1,6}, Clemens Beck¹ and Johan Oomen⁷

- ¹ Junior Professorship for Digital Humanities (Object/Image), Friedrich Schiller University Jena, 07737 Jena, Germany; manuela.graf@timemachine.eu (M.M.G.); clemens.beck@uni-jena.de (C.B.)
 - ² Institute of Photogrammetry and Remote Sensing, Technische Universität Dresden, 01062 Dresden, Germany; ferdinand.maiwald@tu-dresden.de
 - ³ Digital Humanities Institute, École Polytechnique Fédérale de Lausanne (EPFL-DHI), CH-1015 Lausanne, Switzerland; isabella.dilenardo@epfl.ch
 - ⁴ Musical Archive Finland, Sörnäisten rantatie 25, 00500 Helsinki, Finland; juha@musiikkiarkisto.fi
 - ⁵ Europeana Foundation, 2595 BE The Hague, The Netherlands; antoine.isaac@europeana.eu
 - ⁶ Time Machine Organisation, 1100 Vienna, Austria
 - ⁷ Netherlands Institute for Sound & Vision, 2514 BE The Hague, The Netherlands; joomen@beeldengeluid.nl
- * Correspondence: sander.muenster@uni-jena.de

Abstract: Artificial intelligence (AI) is a game changer in many fields, including cultural heritage. It supports the planning and preservation of heritage sites and cities, enables the creation of virtual experiences to enrich cultural tourism and engagement, supports research, and increases access and understanding of heritage objects. Despite some impressive examples, the full potential of AI for economic, social, and cultural change is not yet fully visible. Against this background, this article aims to (a) highlight the scope of AI in the field of cultural heritage and innovation, (b) highlight the state of the art of AI technologies for cultural heritage, (c) highlight challenges and opportunities, and (d) outline an agenda for AI, cultural heritage, and innovation.

Keywords: cultural heritage; AI; agenda; overview



Citation: Münster, S.; Maiwald, F.; di Lenardo, I.; Henriksson, J.; Isaac, A.; Graf, M.M.; Beck, C.; Oomen, J. Artificial Intelligence for Digital Heritage Innovation: Setting up a R&D Agenda for Europe. *Heritage* **2024**, *7*, 794–816. <https://doi.org/10.3390/heritage7020038>

Academic Editors: Bayo Enishi and

<https://www.mdpi.com/2571-9408/7/2/38>

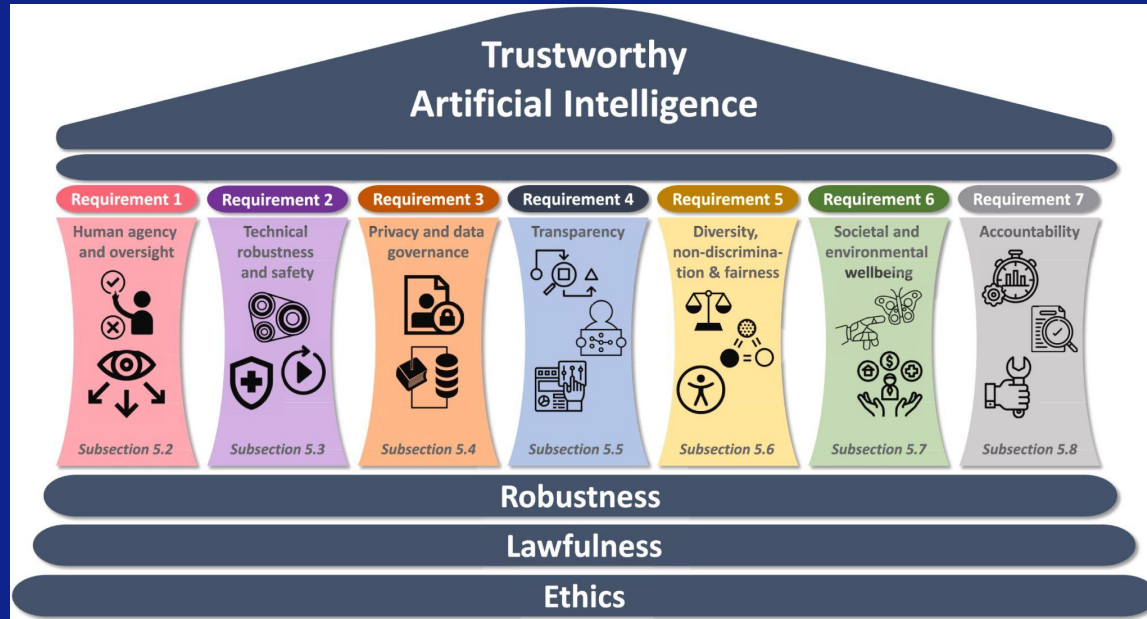


1. Strategise for Responsible AI

Public mission => public value

Institutional strategy => what is important

EU Ethical Guidelines for Trustworthy AI



Seven requirements for trustworthy AI.
<https://doi.org/10.1016/j.inffus.2023.101896>

Dutch Media Sector <https://mediaperspectives.nl/richtlijnen-intentieverklaring/>

1. Strategise for Responsible AI



“KB National Library restricts access to collections for training commercial AI”

Public mission => public value

Institutional strategy => what is important

EU Ethical Guidelines for Trustworthy AI

Example: KB Royal Library: restrict access to commercial AI.

The screenshot shows a news article from NOS. The header includes the NOS logo and navigation links for Nieuws, Sport, Live, and Programma's. The main image is a photograph of the exterior of the KB National Library building in The Hague, with a street scene and a van in the foreground. Below the image, the article title is 'Nationale bibliotheek beperkt toegang tot collecties voor commerciële AI'. The text of the article states that the KB national library in The Hague is taking measures against commercial companies that use its collection for training artificial intelligence without permission. It also mentions that the library is digitizing its collection of books, newspapers, and other texts, and that commercial companies like the one behind ChatGPT are using these sources for AI training.

1. Strategise for Responsible AI



Public mission => public value

Institutional strategy => what is important

EU Ethical Guidelines for Trustworthy AI

Example: KB Royal Library: restrict access to commercial AI.

Support investments in technologies that align with public values

A screenshot of a news article from TNO. The header includes the TNO logo and 'innovation for life', a search icon, and 'EN'. The breadcrumb trail is 'Home / Newsroom /'. The article title is 'The Netherlands starts realisation GPT-NL, its own open AI-language model'. The category is 'Artificial intelligence' and the date is '2 November 2023'. The main text states: 'The Netherlands will develop its own open language model: GPT-NL. This model is necessary to develop, strengthen and perpetuate digital sovereignty. Non-profit parties TNO, NFI and SURF will jointly develop the model in order to take an important step towards transparent, fair and verifiable use of AI in accordance with Dutch and European values and guidelines and with respect for the ownership of data. Funding for the model comes from the Ministry of Economic Affairs and Climate Policy.' A short paragraph at the bottom reads: 'The Netherlands is taking an important step in the development of public expertise and experience in the field of generative AI language models. Our own open language model strengthens expertise in this subject and also provides an incentive for research and innovation in the field of AI.'

2. Leverage domain knowledge

=> partnerships



GLOSSARY OF TERMS

Primitive

HISTORY, USE & POSSIBLE SENSITIVITIES

Primitive derives from the Latin word *primitivus*, meaning the first-born or first of its kind. In European thought, it became synonymous with the racialized and temporal "Other" and was applied to cultures that were imagined as existing in a distant past (see Marjke Kunst and Simone Vermaat in this publication) that lacked qualities that were seen as European, specifically progress and rationality.

The term is before still used today to denote someone or something as simple and uncivilized.

"Primitivism" is a movement in art that connotes the beauty, natural qualities, or romance of a simpler way of life, in contrast to a more advanced, industrialized Europe.

Both the term "primitive", like the artistic movement, have received significant criticism from diverse quarters including academics.

SUGGESTIONS

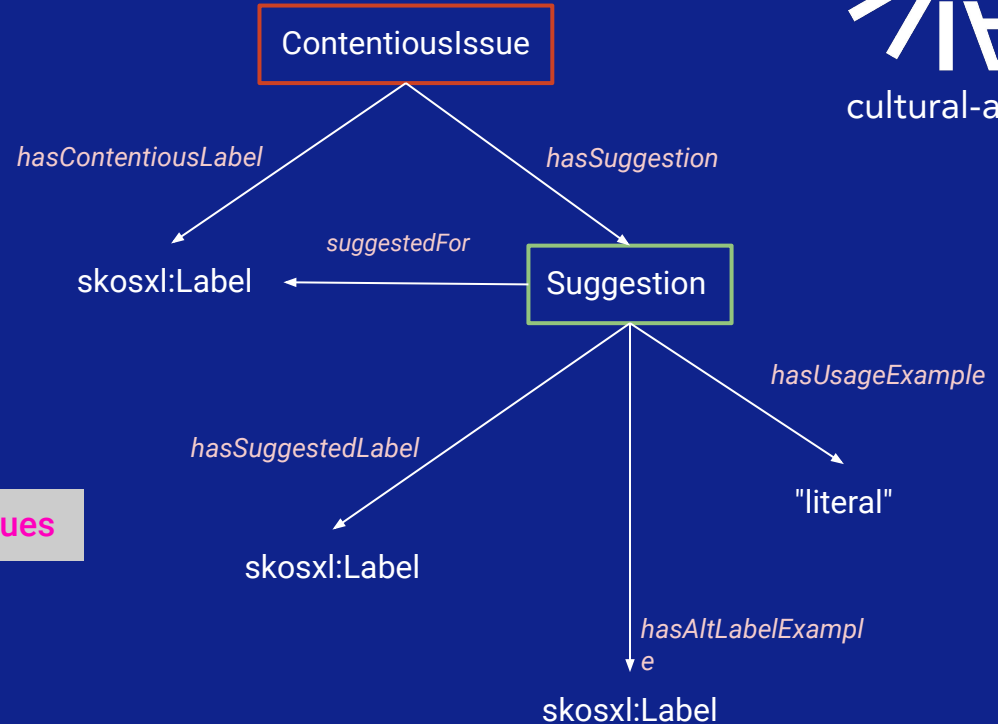
- The term is not recommended for use.
- The term can be used in a descriptive or historical context, in which case we suggest the use of quotation marks.

For example: *There was an artistic movement called "primitivism".*

132

111 Contentious Issues

296 Labels



3. Support sovereign digital public infrastructure

“Digital Public Infrastructure”

Good Practices.

“Digital Powerwash”

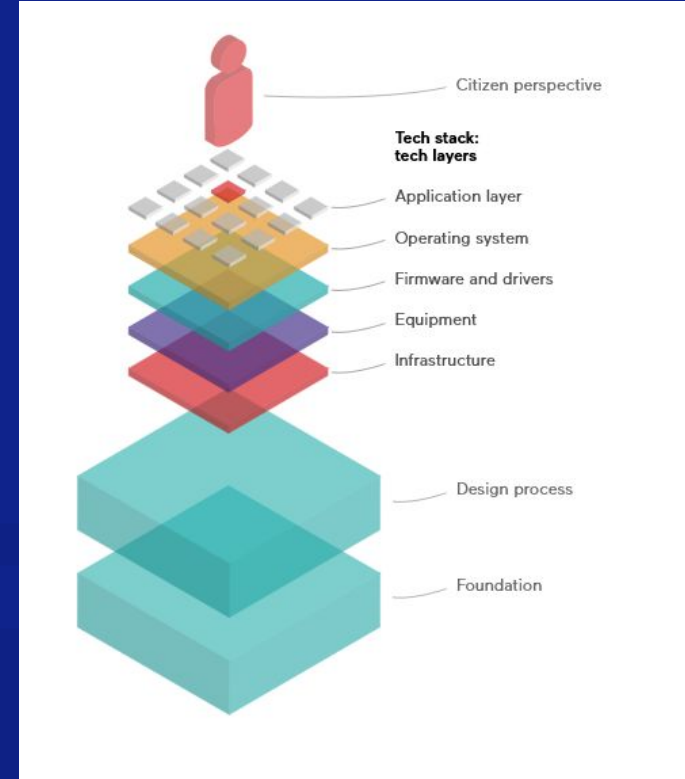
x => fediverse / Google Drive => The Good cloud

built/buy

Influence policy making



Read more: https://openfuture.eu/blog/digital_euro/



4. Advocate appropriate representation

Google

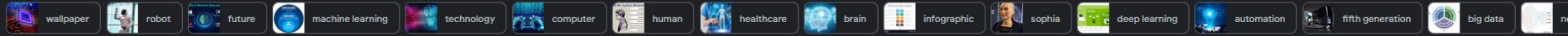
artificial intelligence



Q All Images News Videos Books More

Tools

Collections SafeSearch



What is Artificial Intelligence? Guide...
eweek.com



Artificial Intelligence Images | Free ...
freepik.com



Artificial intelligence and Big Data ...
eiopa.europa.eu



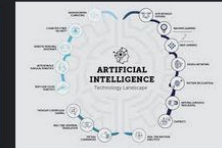
How Artificial Intelligence Will Change ...
builtin.com



Artificial Intelligence: What It Is and ...
investopedia.com



Artificial Intelligence: Types, History ...
simplilearn.com



Designing a Humanoid Brain-2 ...
abhitrnix.github.io



Impact: Artificial Intelligence | MISTI
mist.mit.edu



Future Developments of Artificial ...
bernardmart.com



Guide To Understanding Artificial ...
readwrite.com



What is Artificial Intelligence (AI) ...
builtin.com



lecture 7.5.2022 ...
noesis.edu.gr



Science Focus: Artificial Intelligence ...
aaworld.com



22 Examples of Artificial Intelligence ...
beebom.com



5 ways industrial AI is revolutionizing ...
cio.com



Artificial Intelligence - WINGS ICT ...
wings-ict-solutions.eu



Evolution of AI | Semicolon
semicolon-td.com



Top 10 artificial intelligence (AI) ...
venturebeat.com



European Disability Forum
edf-efph.org



invest \$720M in artificial intelligence
aas.com.tr



The future of artificial intelligence ...
online.york.ac.uk



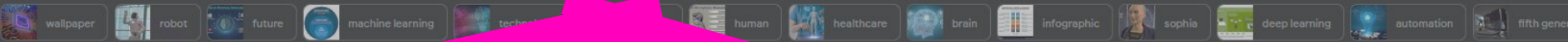
Understanding Artificial Intelligence ...
towardsai.net



Artificial Intelligence ...
jpt.spa.org



artificial intelligence
author.com



**Terminator
White Shiny Robots
Glow Brains
Creation men in suits
Meme**

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What is artificial intelligence a...
europarl.europa.eu



Ethical Problem of Artificial Intelligence
projectcube.com



doctor-patient relationship
coe.int



ATG Artificial Intelligence
atg.artificialintelligence.com



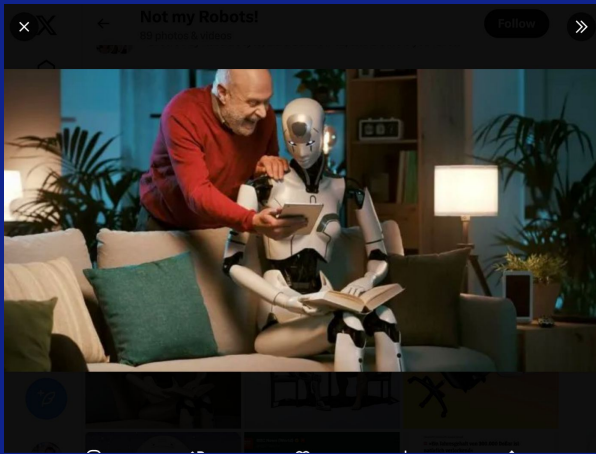
artificial intelligence
greenbiz.com



Artificial Intelligence for...
weforum.org



Artificial Intelligence...
simplilearn.com



Not my Robots!
@NotMyRobots

That's a good question but not a good picture. That seems unnecessarily gendered and borderline creepy, doesn't it? The text doesn't mention robots at all either.

Marisa Tschop @MarisaT · Aug 7, 2023

Can a bot provide emotional support? Does a deepfake lookalike or an attractive AI human partner alleviate loneliness and emptiness in individuals?

4:42 PM · Aug 7, 2023 · 474 Views

1 1 5

Post your reply Reply

Not my Robots! Retweeted

Ria @ria_kakkad · Aug 15

searching for "machine learning" stock photos and found this. kinda horrified @NotMyRobots

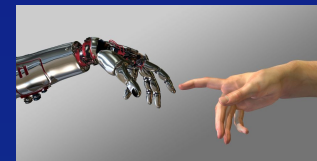


ALTY

Image ID: 189000
www.altmy.com

Why this is problematic

- Creates a distorted understanding of AI
- Not representative of most AI research
- Set unrealistic expectations
- Diversity and representation issues (e.g. white sexualised female robot)

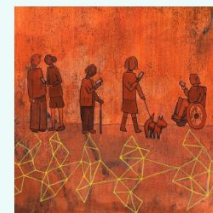


Images of AI library

Welcome to the inspiration library. These images are just the start of a growing repository, so keep checking in! Images can be downloaded and used by anyone for free if credited using the Creative Commons license referenced on the image card.



AI City - Emily Rand & LOTI



People with phones - Jamillah Knowles & Reset.Tech Australia



People on phones (portrait) - Jamillah Knowles & Reset.Tech Australia



Medicines - Rens Dimmendaal & Banjong Raksapakdee



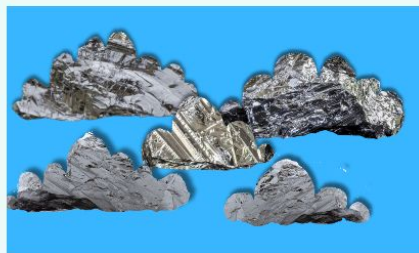
Silicon on Black 1 - Catherine Breslin



Quantified Human - Alan Warburton



AI Lands - XK Studio & Google DeepMind



AI silicon clouds collage - Catherine Breslin & Tania Duarte



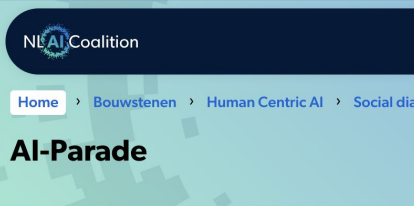
A trainer instructing a data annotator on how to label images - Nacho Kamenov & Humans in the Loop



Data flock (faces) - Philipp Schmitt & AT&T Laboratories Cambridge

5. Educate & facilitate encounters

“AI Literacy”



The AI Parade is an initiative from the Netherlands AI Coalition’s Culture and Media working group and Human Centric AI building block. Until December 2023, the AI Parade is travelling to 35 libraries across the country, offering debates, workshops and exhibitions. It involves a variety of engaging activities that can reach a broad target audience.

Purpose of the AI Parade

The AI Parade aims to engage a million members of the public in the conversation about AI. The impact and reach of the AI Parade are being carefully measured. The input it provides will be fed back from the participating libraries to the Netherlands AI Coalition.

The library as a place to meet

A library is the ideal spot for the AI Parade: the kind of place anyone can go to with no worries – so it is the right place for making even a complex concept like AI understandable. It’s no coincidence that a fifth of all residents of the Netherlands are library members and that annual visitor numbers for all libraries taken together are around 62 million. Libraries also have an important task in actively helping members of the public to be part of the information society, for instance by providing training and facilitating the public dialogue.



<https://nowplaythis.net/game/deviation-game/>

Contact:

joomen@beeldengeluid.nl

@johanoomen

Thank you: Sara Veldhoen,
Rasa Bocyte & Victor de
Boer



AI4media

https://docs.google.com/presentation/d/1XXXmxcvUaP_cT589tLAsv5N7EErcTElSTbUxuhYjWMc/edit#slide=id.g221a55a1b69_o_138

IASA https://docs.google.com/presentation/d/1ySa5MGepZw4j9GSOBOPUekYnZ_hbTncl1ZvAVeDgn-l/edit#slide=id.g1e709e29bba_o_7

EKIP

https://docs.google.com/presentation/d/1oLWdP4LV6v4Gj4MAcM4LaWj54B3VP9pQ3k24THYYZxk/edit#slide=id.g2b2b53006do_o_o

AI4MEDIA https://docs.google.com/presentation/d/1wlyfuZiFwSlou6r34qY2eOEqh_6fQEgU/edit#slide=id.p2

Better Images of AI 2022

https://docs.google.com/presentation/d/1mm7qTYRmxblnk1d9BHjx25hekS_ETKfZ5P5OwokHD9o/edit#slide=id.g2a001723fa2_o_140

Better Images of AI 2023

https://docs.google.com/presentation/u/o/d/1YUrCw8Z394dH6BwhhisXlStA8_K-838d/edit?usp=slides_home&ths=true&rtpof=true