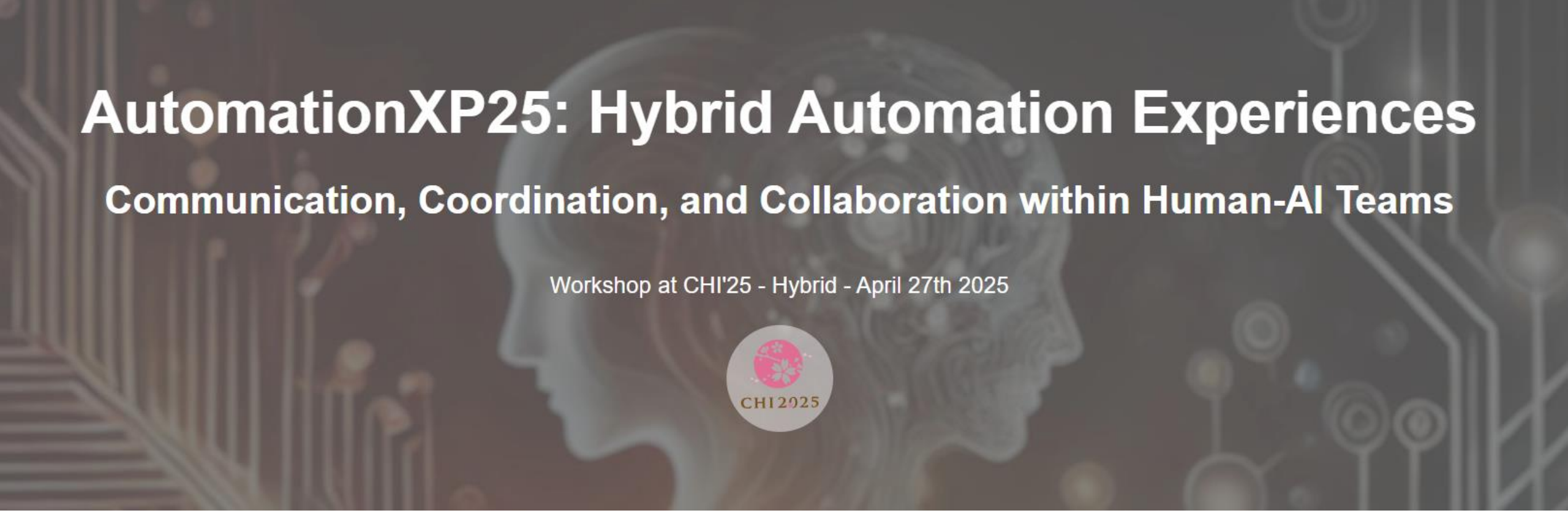


From Automation and Augmentation to Delegation and Human-AI Collaborative Cognition

Albrecht Schmidt
Ludwig-Maximilians-Universität München

Human-AI Collaborative Cognition

Automation …

- HABA MABA revisited
- Ironies of Automation revisited

Augmentation …

- externalize human memory and the ability to recall
- amplification of human perception
- increasing bandwidth between humans and cognitive offloading

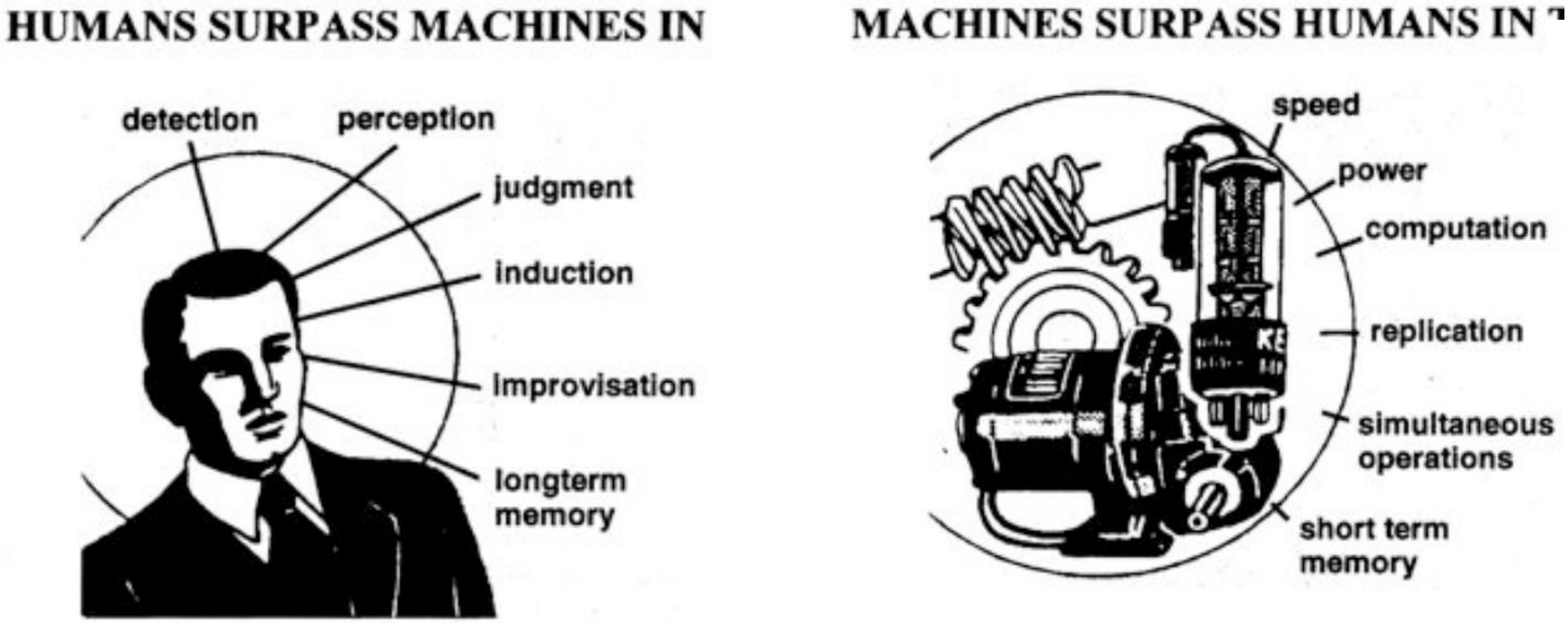
Collaboration …

- augmented synthesis of knowledge and skills
- creativity support and (sense of accomplishment)

Human Roles in Interaction are changing…

- design for delegation of tasks and intervention of processes
- rethinking thinking!
- we create reality not applications and user interfaces

HABA – MABA
Humans are better at – Machines are better at



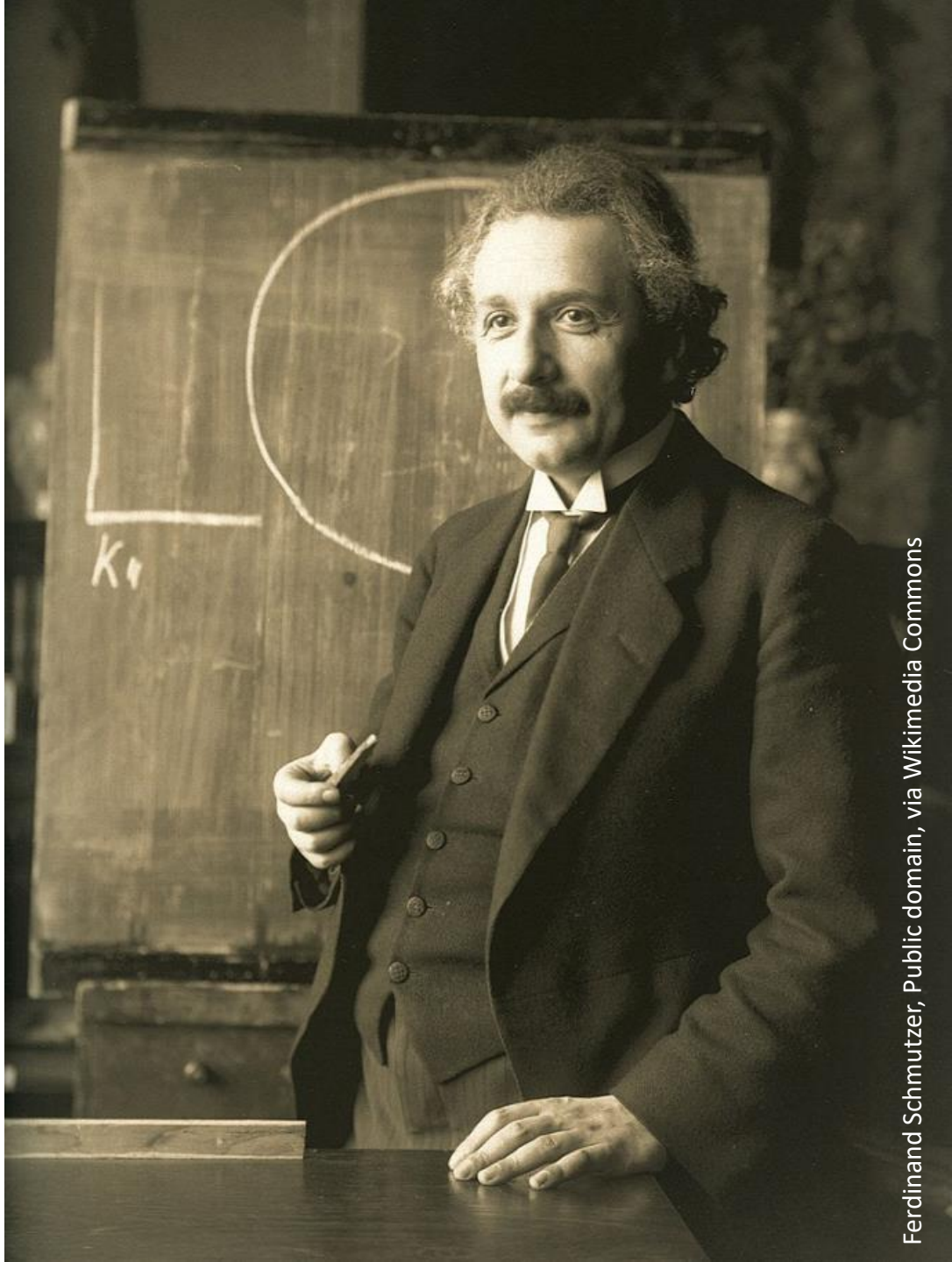
From Bradshaw, Jeffrey & Feltovich, Paul J. & Johnson, Matthew. (2011). Human-Agent Interaction. Handbook of Human-Machine Interaction. Citing Fitts, P.M., ed. Human Engineering for an Effective Air Navigation and Traffic, Control System. Washington, D.C.: National Research Council, 1951
https://www.researchgate.net/publication/267819585_Human-Agent_Interaction

What (cognitive) tasks can YOU do better than an AI?

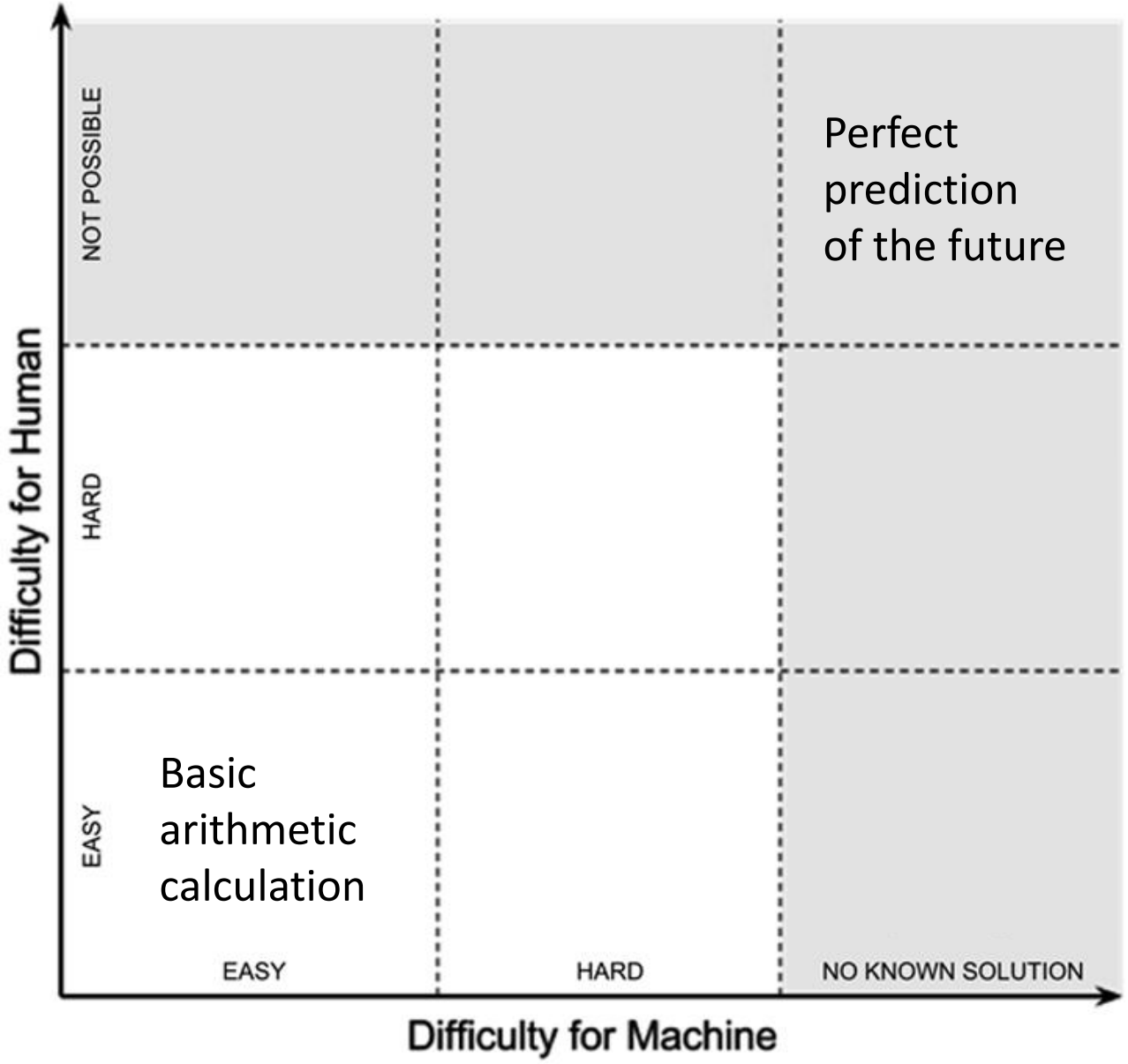
Is creativity the one things humans are better at than machines?

Creativity is seeing what others see and thinking what no one else ever thought

Albert Einstein



Ferdinand Schmutzer, Public domain, via Wikimedia Commons



Inspired by: Crouser, R. Jordan; Ottley, Alvitta; and Chang, Remco, "Balancing Human and Machine Contributions in Human Computation Systems" (2013). Computer Science: Faculty Publications, Smith College, Northampton, MA. https://scholarworks.smith.edu/csc_facpubs/93

Is a car faster than a human?

Is this question reasonable?

Images: AI created with midejourney.com

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Automatica, Vol. 19, No. 6, pp. 775–779, 1983
Printed in Great Britain.

0005–1098/83 $3.00 + 0.00
Pergamon Press Ltd.

Brief Paper

Ironies of Automation*

LISANNE BAINBRIDGE†

Key Words—Control engineering computer applications; man–machine systems; on-line operation; process control; system failure and recovery.

Abstract—This paper discusses the ways in which automation of industrial processes may expand rather than eliminate problems with the human operator. Some comments will be made on methods of alleviating these problems within the 'classic' approach of leaving the operator with responsibility for abn
the
hum

designer errors can be a major source of operating problems. Unfortunately people who have collected data on this are reluctant to publish them, as the actual figures are difficult to interpret. (Some types of error may be reported more readily than others, and there may be disagreement about their origin.) The

Iron
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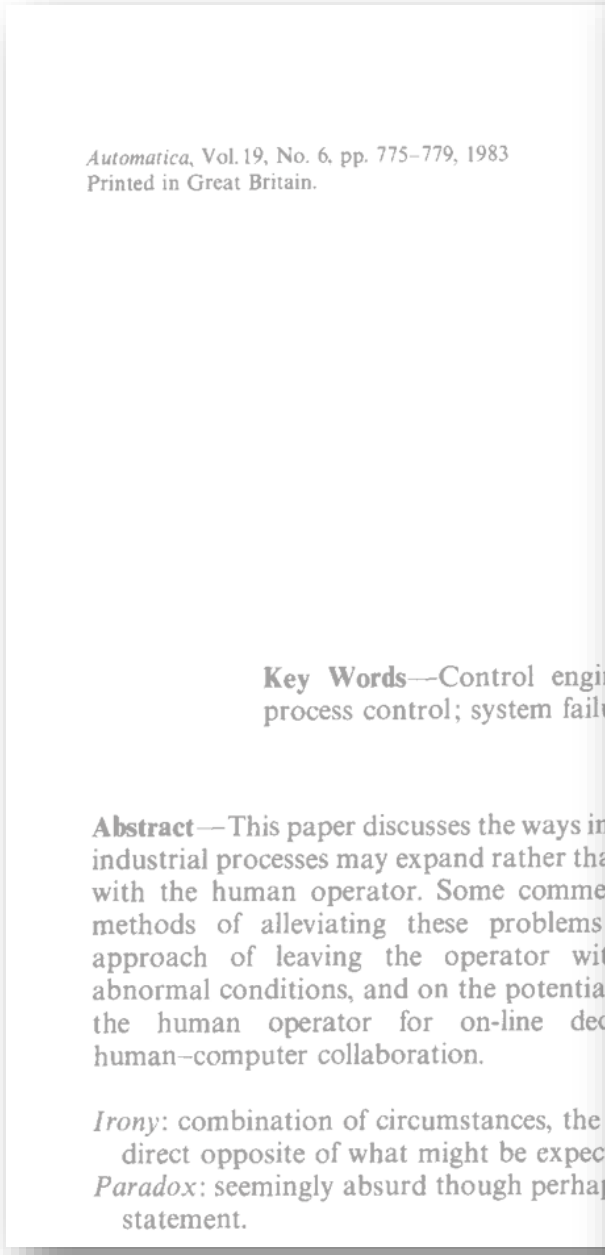
Abstract—This paper discusses the ways in which automation of industrial processes may expand rather than eliminate problems with the human operator. Some comments will be made on

Bainbridge, Lisanne. "Ironies of automation." *Analysis, design and evaluation of man–machine systems*. Pergamon, 1983. 129-135. https://ckrybus.com/static/papers/Bainbridge_1983_Automatica.pdf



Automatica, Vol. 19, No. 6, pp. 775–779, 1983
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process control; system failu

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industrial processes may expand rather tha
with the human operator. Some comme
methods of alleviating these problems
approach of leaving the operator wit
abnormal conditions, and on the potentia
the human operator for on-line dec
human–computer collaboration.

Irony: combination of circumstances, the
direct opposite of what might be expec
Paradox: seemingly absurd though perha
statement.

The **ironies** of **automation**: still going strong at 30?
G Baxter, J Rooksby, Y Wang... - Proceedings of the 30th ..., 2012 - dl.acm.org
... We begin by providing a recap of the **ironies** of **automation** ... effect this has had on the **ironies** of **automation**. We focus our ... the **ironies** in each case study, and discuss the **ironies** more ...
☆ Speichern 99 Zitieren Zitiert von: 153 Ähnliche Artikel Alle 7 Versionen

Ironies of **automation**: Still unresolved after all these years
B Strauch - IEEE Transactions on Human-Machine Systems, 2017 - ieeexplore.ieee.org
... in **automated** system operations [14], among others. In this tribute, I explain the background of **Ironies** of **Automation** ... I examine the paper's contemporary relevance by citing **automation**-...
☆ Speichern 99 Zitieren Zitiert von: 175 Ähnliche Artikel Alle 2 Versionen

Ironies of **automation** 4.0
T Hancke - IFAC-PapersOnLine, 2020 - Elsevier
This paper revisits a truly classic publication: Bainbridge's **Ironies** of **Automation** (1983) - but it also aims to make the point that the insights gained many years ago are today becoming ...
☆ Speichern 99 Zitieren Zitiert von: 14 Ähnliche Artikel Alle 2 Versionen

[HTML] **Ironies** of **automation** and their implications for public service **automation**
I Lindgren - Government Information Quarterly, 2024 - Elsevier
... public service **automation**. The purpose of this work is to (1) present **ironies** of **automation**, (2) explicate how these **ironies** can come into play when implementing **automated** systems in ...
☆ Speichern 99 Zitieren Zitiert von: 4 Ähnliche Artikel Alle 2 Versionen

Bainbridge, Lisanne. "Ironies of automation." *Analysis, design and evaluation of man–machine systems*. Pergamon, 1983. 129-135. https://ckrybus.com/static/papers/Bainbridge_1983_Automatica.pdf

Automation Paradox for Knowledge Work?

Automation makes things easier (mostly),
but makes it hard when humans are needed.

Automation Paradox in Short

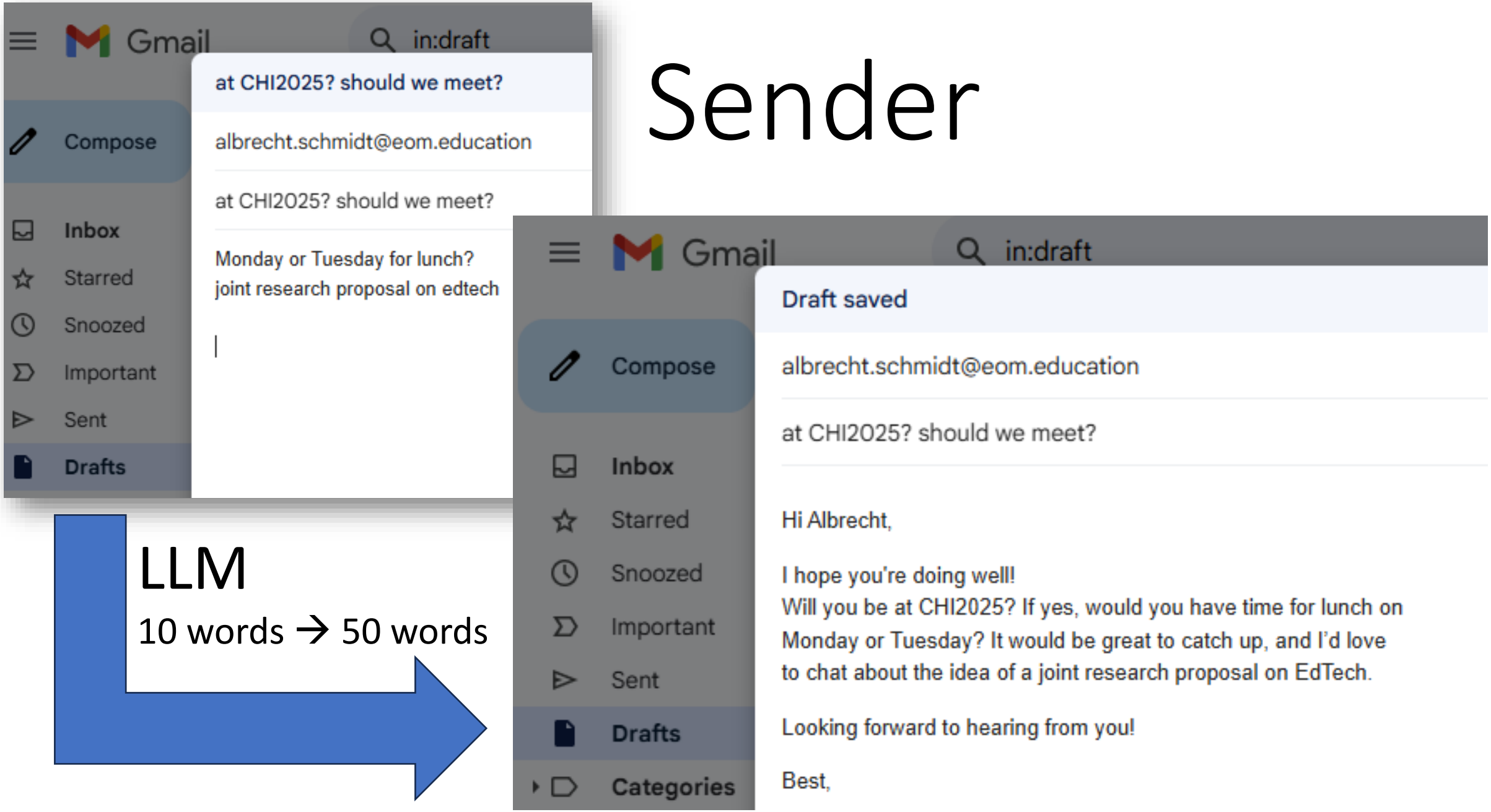
- Systems become more automated
- Human operators rarely needed
- Human operator does not practice and hence loses skills
- When humans are needed it is typical a non-standard situation
- Humans may not deal well with such situations

Office and Knowledge Work

- Does the Automation Paradox apply to knowledge work?
- What are the challenges?
- What is supervision of AI?
- Is deskilling an issue?
- Consistency of decisions with the automation?
- What new skills are required?

A different “automation paradox” in communication

Sender


Gmail
in:draft
at CHI2025? should we meet?
albrecht.schmidt@eom.education
at CHI2025? should we meet?
Monday or Tuesday for lunch?
joint research proposal on edtech
Compose
Inbox
Starred
Snoozed
Important
Sent
Drafts
LLM
10 words → 50 words
Gmail
in:draft
Draft saved
albrecht.schmidt@eom.education
at CHI2025? should we meet?
Hi Albrecht,
I hope you're doing well!
Will you be at CHI2025? If yes, would you have time for lunch on Monday or Tuesday? It would be great to catch up, and I'd love to chat about the idea of a joint research proposal on EdTech.
Looking forward to hearing from you!
Best,
Compose
Inbox
Starred
Snoozed
Important
Sent
Drafts
Categories

at CHI2025? should we meet?

Hi Albrecht,

I hope you're doing well!
Will you be at CHI2025? If yes, would you have time for lunch on Monday or Tuesday? It would be great to catch up, and I'd love to chat about the idea of a joint research proposal on EdTech.

Looking forward to hearing from you!

Best,

Receiver

LLM

50 words → 10 words

Lunch Monday or Tuesday at CHI2025 to discuss EdTech proposal?

Researcher

- 10 Papers our Lab wrote in the last years
- Titles and abstracts of best papers at a relevant conference, e.g. CHI2025
- 17 Sustainability goals explained
- My google scholar and my linkedIn page
- Societal goals specified by my government
- Call for proposals of the funding agency
- Keywords I like to work on: LLMs, wearable computing, interactive systems, human augmentation

LLM (interactive/iteratively)

→ 20-page proposal

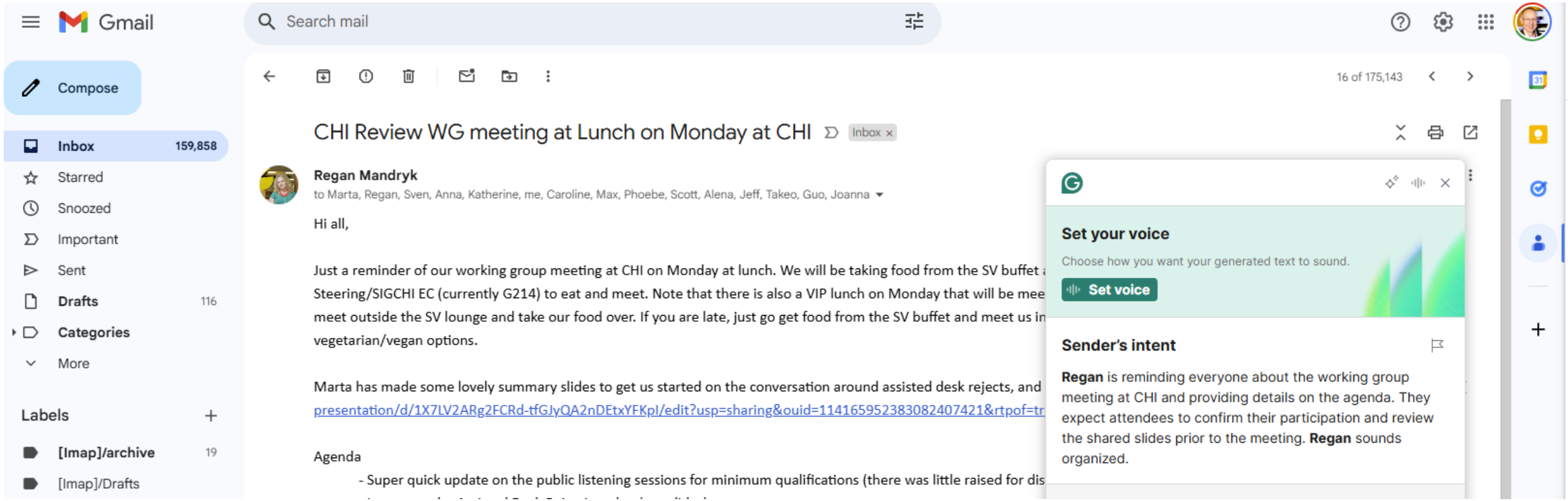
Funding Agency / Reviewers

LLM (interactive?/iteratively?)

→ 1-page assessment

- Keywords on what the researcher wants to work on
- Fit to their previous work and their methodological skills
- Fit to goals of the funding initiative and the call
- Bullets points of the main innovation
- Uniqueness of the ideas and feasibility

A different “automation paradox” in communication… it is happening



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Human Memory Extensions
Imagine to Capture everything

Capture technology and information retrieval are available

Continuous and automated recordings feasible

Use technology to remember and to externalize memory

Re-enforce and attenuate memories.

Investigate how feedback can aid personal memory acquisition, retention, and attenuation.

Presentation and feedback through ambient displays

SEVENTH FRAMEWORK PROGRAMME

recall

http://recall-fet.eu/

Interacting wit Human Memory Extensions

Who do you want to manage / attenuate / amplify your memories?

Passant Elagroudy et al. Pixel Memories: Do Lifelog Summaries Fail to Enhance Memory but Offer Privacy-Aware Memory Assessments? In CHI Conference on Human Factors in Computing Systems (CHI '25), April 26- May 1, 2025, Yokohama, Japan. ACM, New York, NY, USA https://doi.org/10.1145/3706598.3714145

Elagroudy, Passant. 2021. Designing ubiquitous-computing systems for memory alterations. PhD Dissertation, University of Stuttgart. http://dx.doi.org/10.18419/opus-12472

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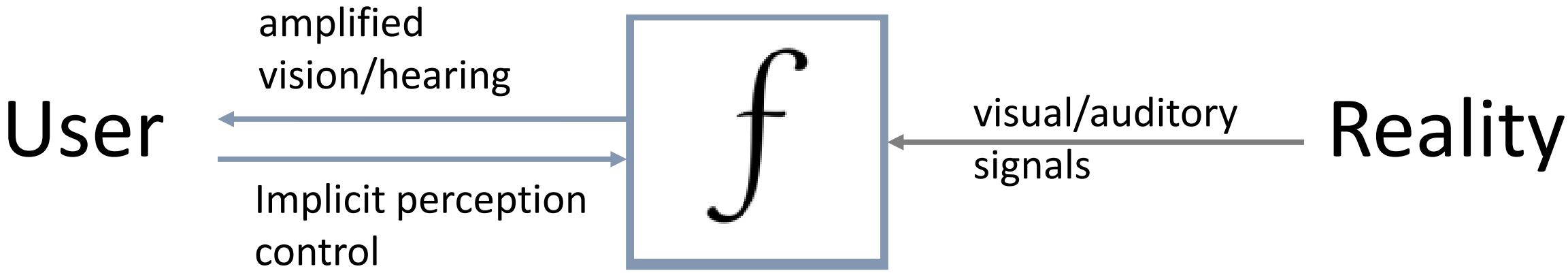
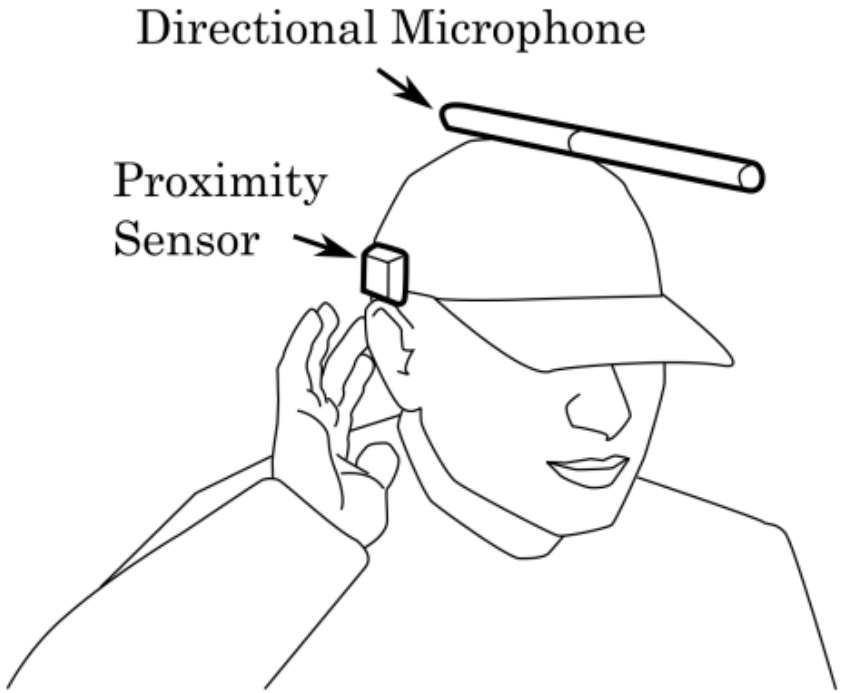
A function to Alter reality



Example: Selective long-distance hearing



Francisco Kiss. 2020. Reshaping ubiquitous interaction through sensory augmentation. PhD dissertation, University of Stuttgart, Germany https://elib.uni-stuttgart.de/handle/11682/11371

Example: Slow Motion on Demand

Pascal Knierim, Thomas Kosch, Gabrielle LaBorwit, and Albrecht Schmidt. 2020. Altering the Speed of Reality? Exploring Visual Slow-Motion to Amplify Human Perception using Augmented Reality. In Proceedings of the Augmented Humans International Conference (AHs '20). Association for Computing Machinery, New York, NY, USA, Article 2, 1–5. https://doi.org/10.1145/3384657.3384659

AMPLIFY protoypes…

AMPLIFY: Amplifying Human Perception Through Interactive Digital Technologies

- Conceptual foundation for a technical amplification of **human perception** and **artificial reflexes**.
- **Concepts, models, algorithms**, and platforms to enable the creation of interactive systems that **measurably increase human perceptual capabilities.**

European Research Council

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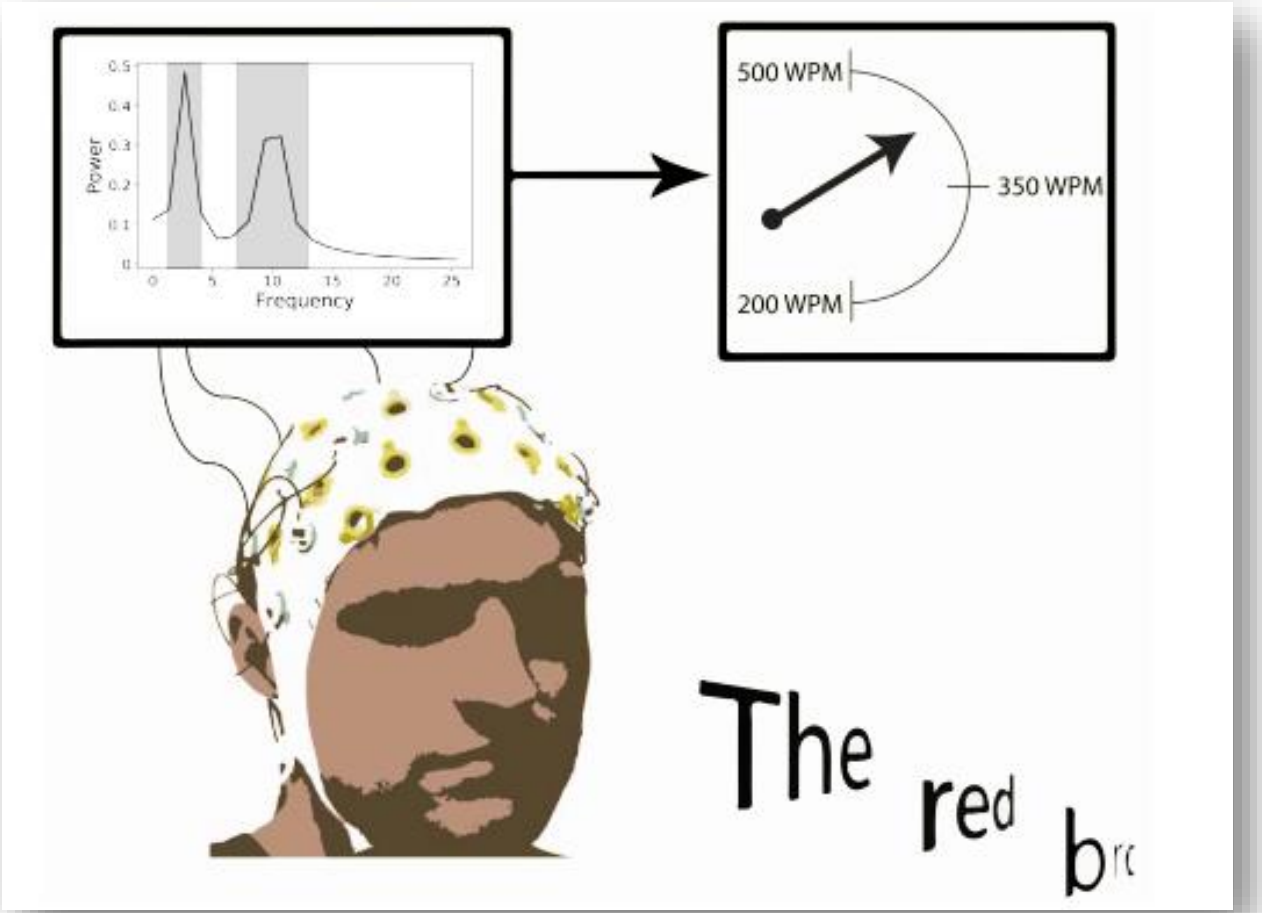
Optimize Output for Human capabilities



Thomas Kosch, Albrecht Schmidt, Simon Thanheiser, and Lewis L. Chuang. 2020. One does not Simply RSVP: Mental Workload to Select Speed Reading Parameters using Electroencephalography. In Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems (CHI '20). Association for Computing Machinery, New York, NY, USA, 1–13. https://doi.org/10.1145/3313831.3376766

Visual Representations to Augment Cognition Text and Images

Lischke, L. (2018). Interacting with large high-resolution display workplaces. PhD dissertation, University of Stuttgart. https://dx.doi.org/10.18419/opus-10121

Outsourcing Cognition
Exploring Joint Human-AI Intelligence

Mood Detection
- Icon representing mood
- Contextually relevant explanation for detected mood

Real-time translation
- For travelers, language learners and international project collaboration

Conversation ideas
- Suggestions for how to continue and enrich the current dialogue

Figure 1: Interface for visual modality retrieval: AI suggestions are rendered the near-peripheral vision of participants, the UI element on the right is a placeholder for pictures in future implementations.

Steeven Villa, Yannick Weiss, Mei Yi Lu, Moritz Ziarko, Albrecht Schmidt, and Jasmin Niess. 2024. Envisioning Futures: How the Modality of AI Recommendations Impacts Conversation Flow in AR-enhanced Dialogue. In Proceedings of the 26th International Conference on Multimodal Interaction (ICMI '24). Association for Computing Machinery, New York, NY, USA, 182–193. https://doi.org/10.1145/3678957.3685731

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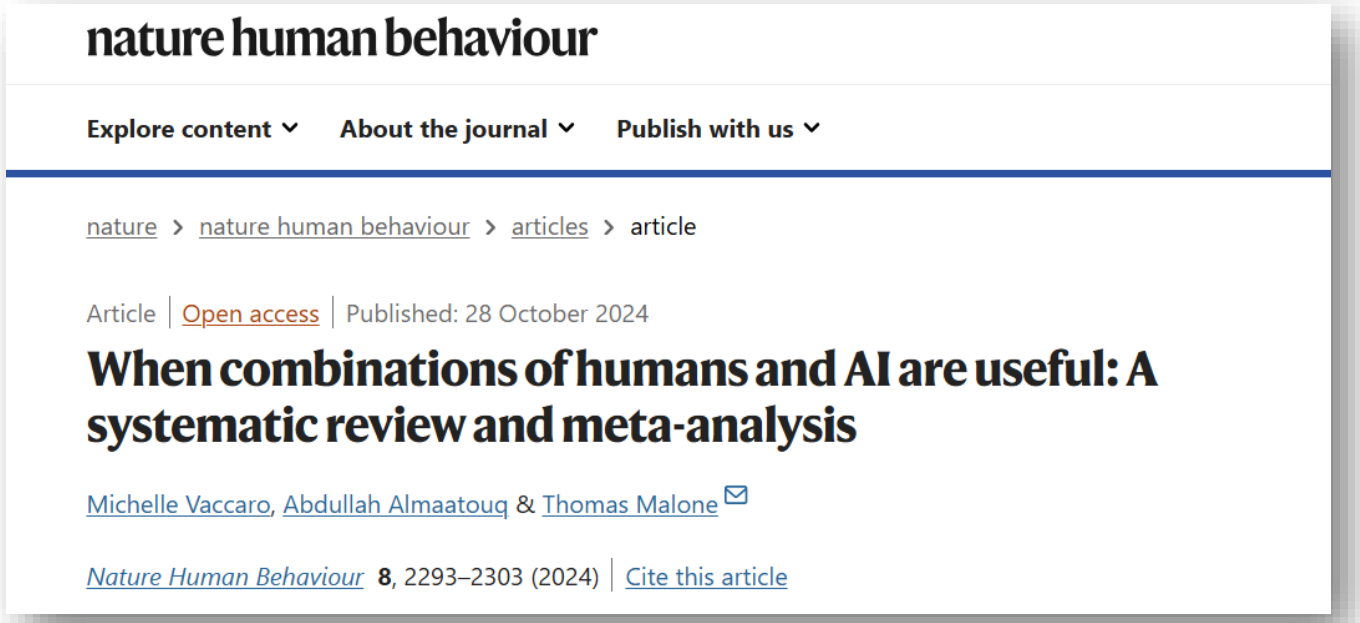
Human-AI collaboration on cognitive tasks is not straightforward!

"[…] human-AI combinations performed significantly worse than the best humans or AI alone […]"



nature human behaviour

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Article | Open access | Published: 28 October 2024

When combinations of humans and AI are useful: A systematic review and meta-analysis

Michelle Vaccaro, Abdullah Almaatouq & Thomas Malone

Nature Human Behaviour **8**, 2293–2303 (2024) | Cite this article

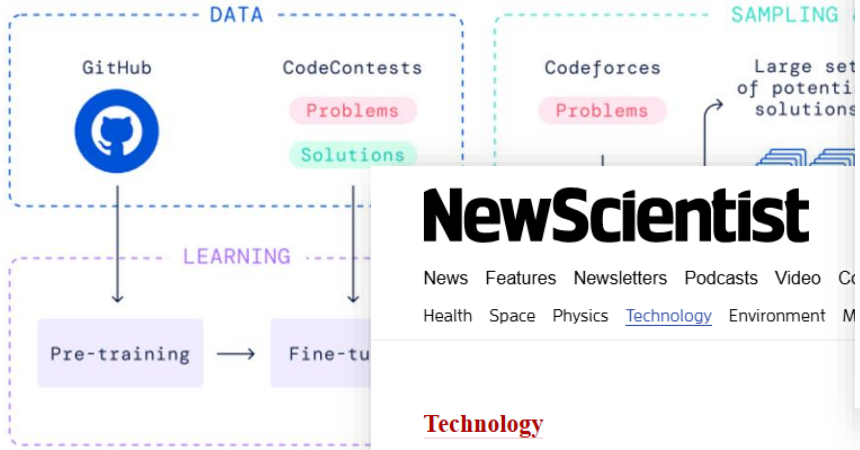
One message from the abstract of this paper, but it is more complex.

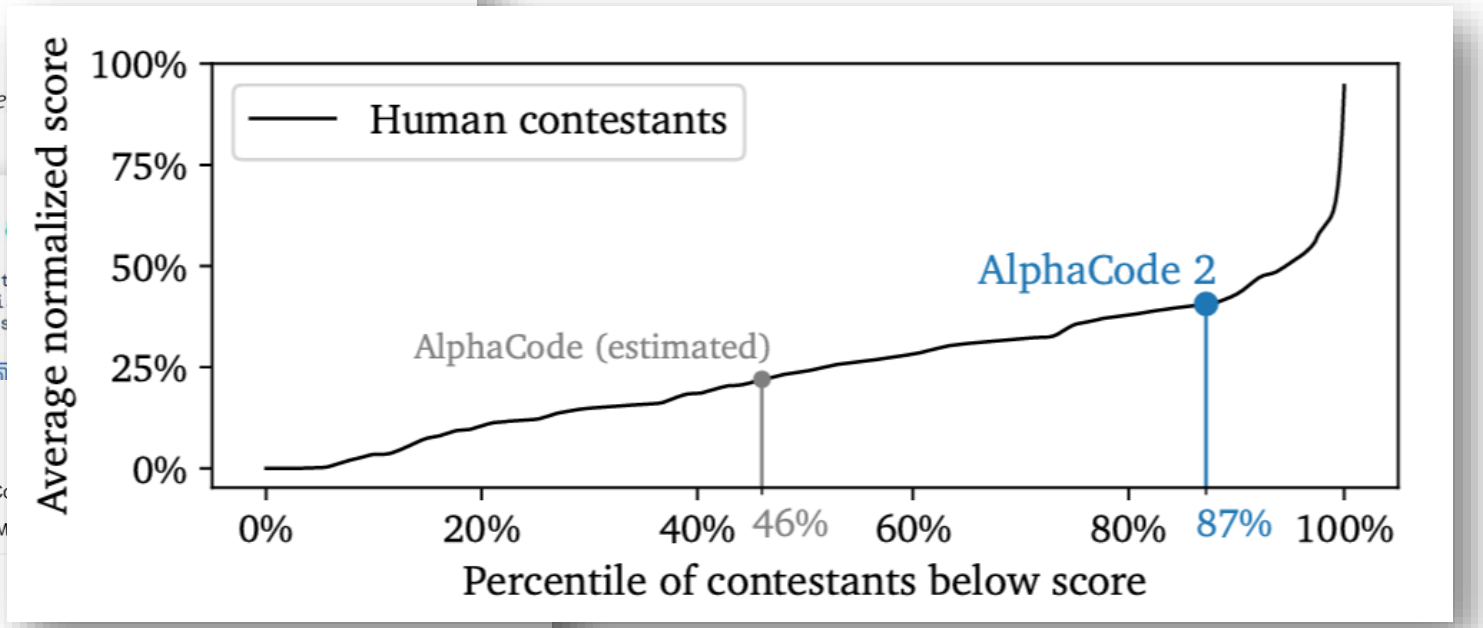
https://www.nature.com/articles/s41562-024-02024-1

Software engineering and programming

AlphaCode

Li, Yujia, et al. "Competition-Level Code Generation with AlphaCode." *arXiv pre*
https://arxiv.org/pdf/2203.07814.pdf





NewScientist

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Health Space Physics Technology Environment M

Technology

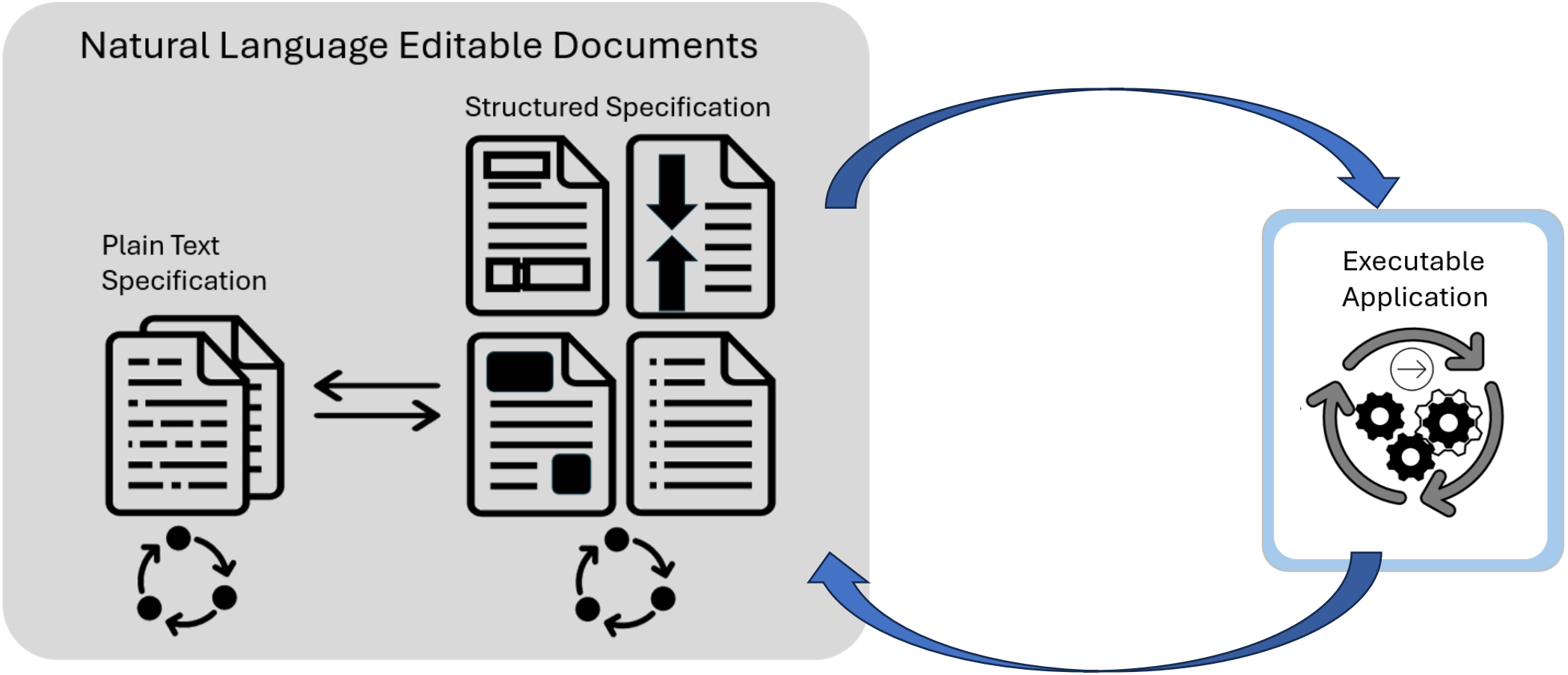
DeepMind has made software-writing AI that rivals average human coder

AI company DeepMind has built a tool that can create working code to solve complex software challenges

By Matthew Sparkes

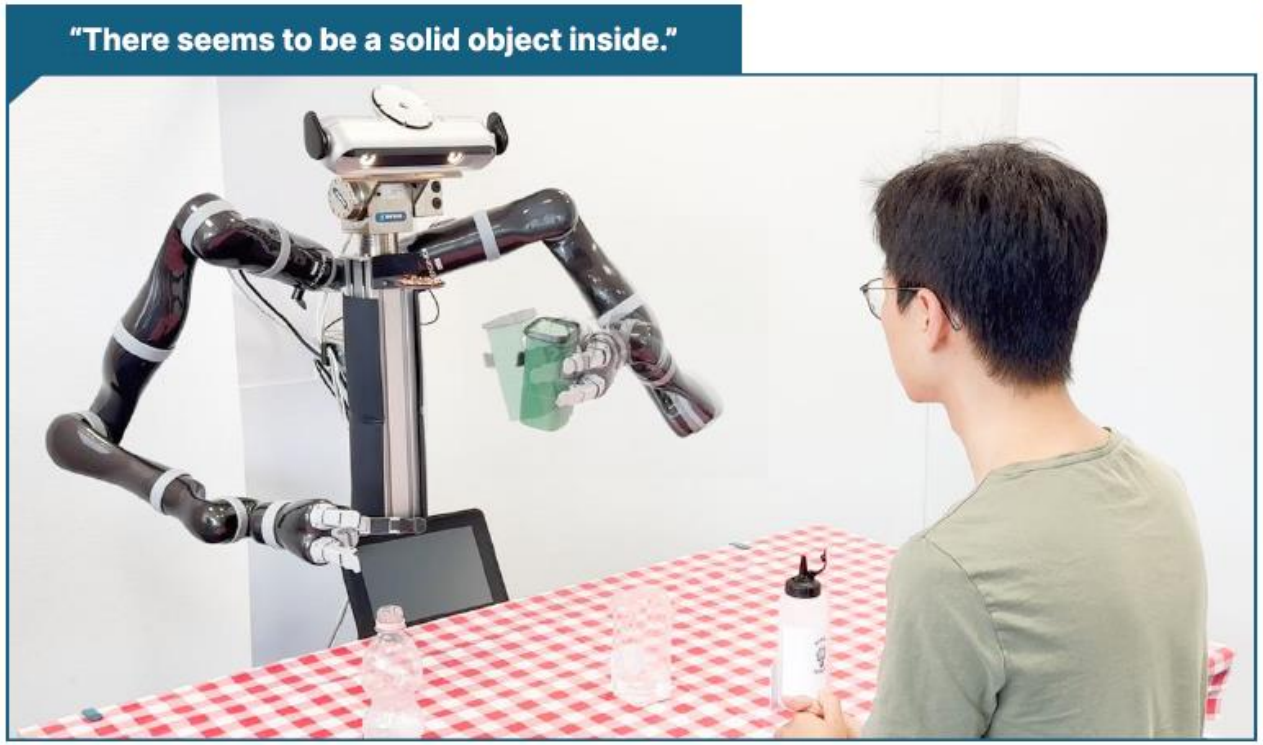
2 February 2022

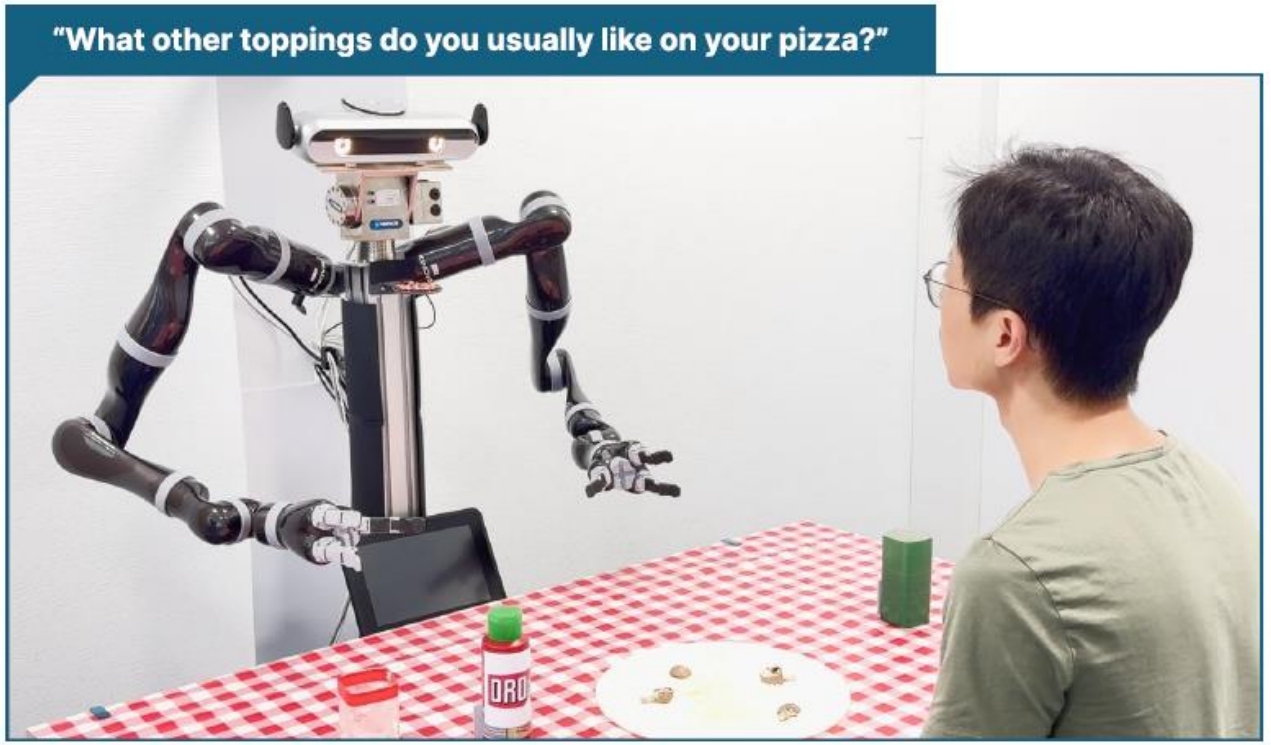
Human-Centered Specification-Driven Software Engineering with Generative AI



https://en.bidt.digital/research-project/human-centered-specification-driven-software-engineering-with-generative-ai/

Curiosity in Human-Robot Interaction
Synthesis of knowledge in collaboration





Jan Leusmann, Anna Belardinelli, Luke Haliburton, Stephan Hasler, Albrecht Schmidt, Sven Mayer, Michael Gienger, and Chao Wang. 2025. Investigating LLM-Driven Curiosity in Human-Robot Interaction. In CHI Conference on Human Factors in Computing Systems (CHI '25), April 26- May 1, 2025, Yokohama, Japan. ACM, New York, NY, USA, 16 pages.
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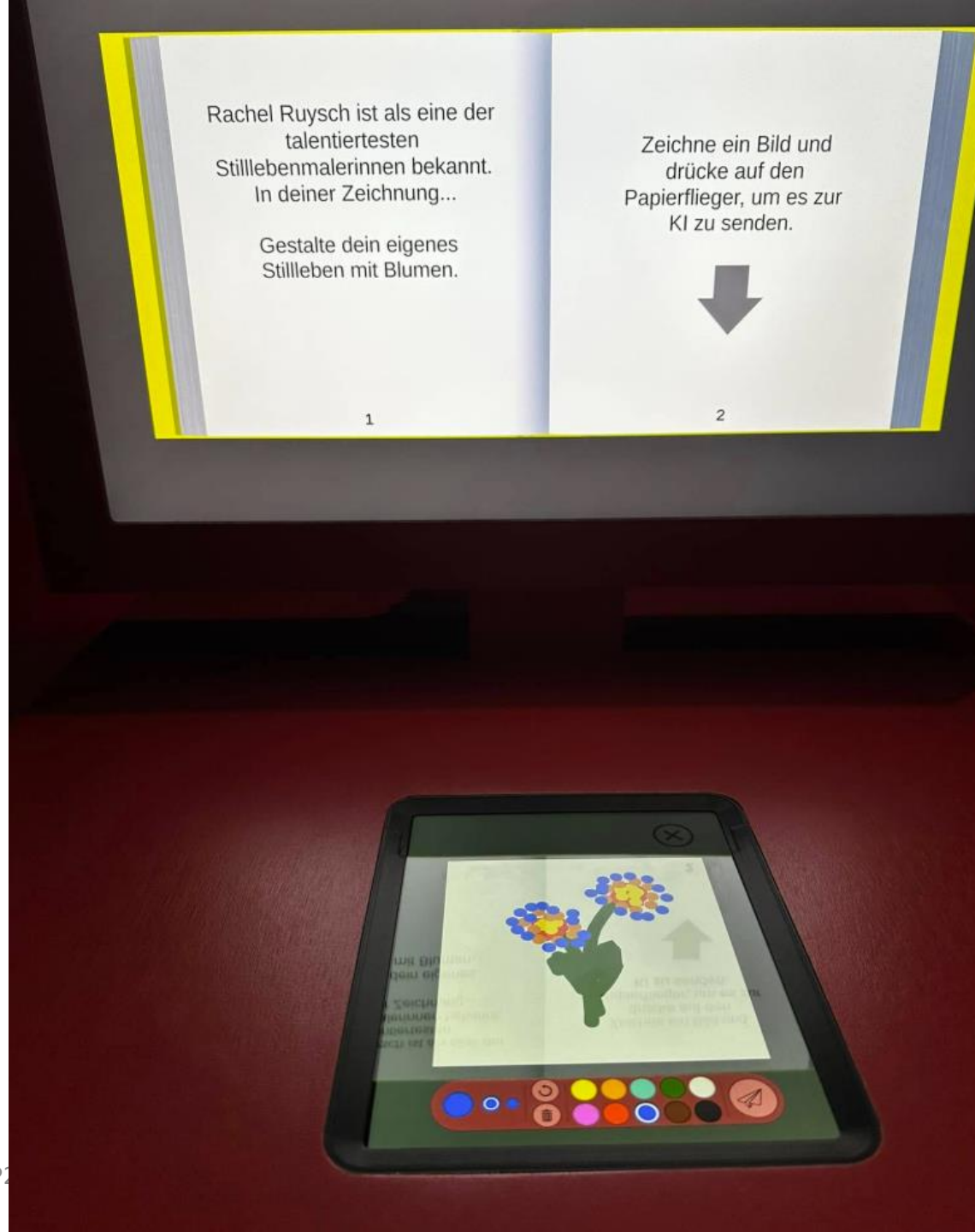
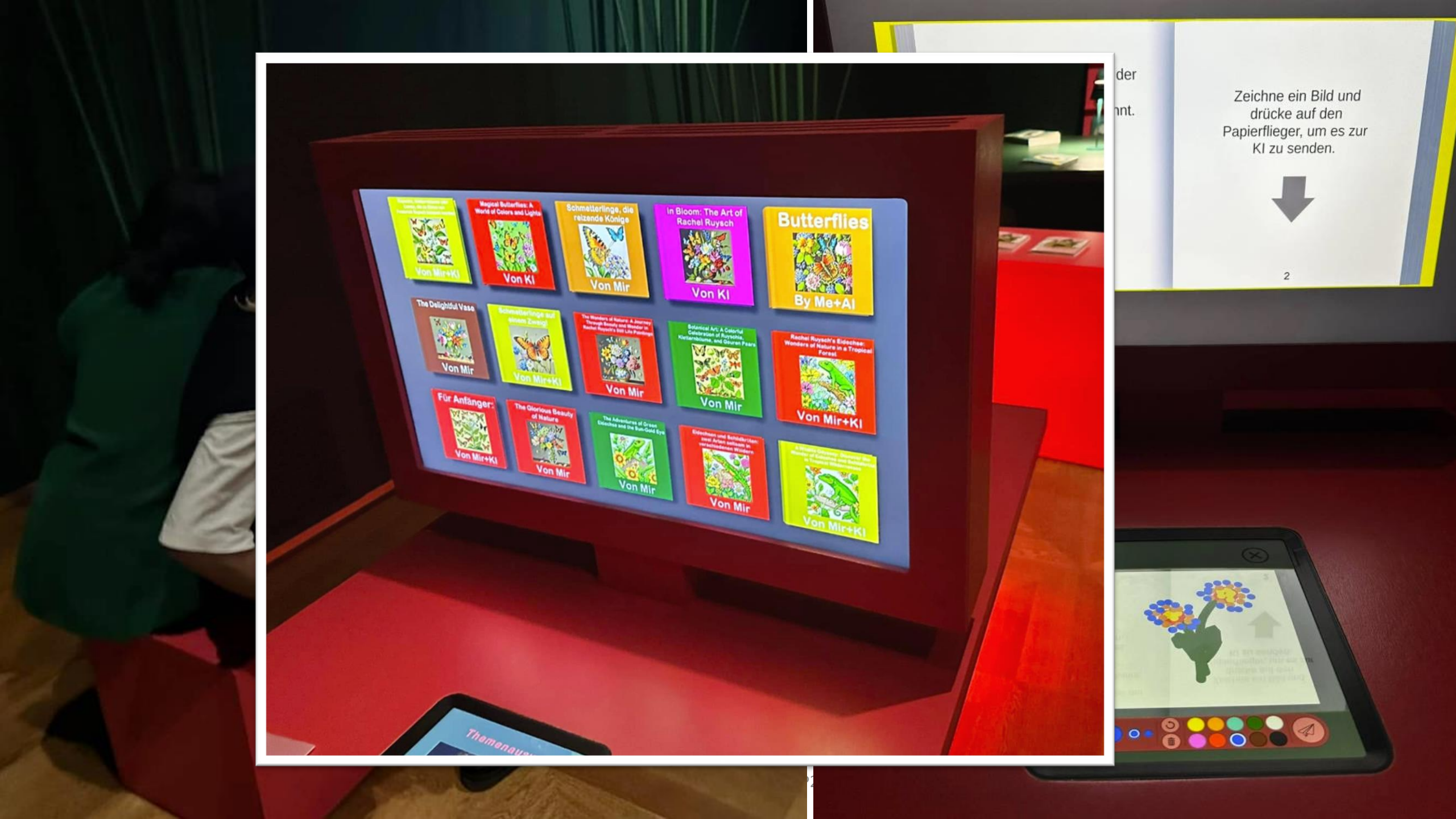
Writing a (cumulative) PhD thesis

- You have 5 papers written and published – your thesis research
- There are 100 papers you cite in your research
- There are 25 thesis in your field, 5 from your institution
- You decide on a “red-thread” (a story) to put it together
- You generate a first version of your thesis
- You revise your thesis till it is truly your thesis

Is it easier to write the thesis or software that solves it generally? What would you enjoy more doing it?


Rachel Ruysch ist als eine der talentiertesten Stilllebenmalerinnen bekannt. In deiner Zeichnung...
Gestalte dein eigenes Stillleben mit Blumen.
1
Zeichne ein Bild und drücke auf den Papierflieger, um es zur KI zu senden.
2


Von Mir+KI
Von KI
Schmetterlinge, die reizende Könige
Von Mir
In Bloom: The Art of Rachel Ruysch
Von KI
Butterflies
By Me+AI
The Delightful Vase
Von Mir
Von Mir+KI
Von Mir
Von Mir
Rachel Ruysch's Eidechse: Wonders of Nature in a Tropical Forest
Von Mir+KI
Für Anfänger:
Von Mir+KI
The Glorious Beauty of Nature
Von Mir
Von Mir
Von Mir
Von Mir+KI
Zeichne ein Bild und drücke auf den Papierflieger, um es zur KI zu senden.
2

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Keeping the “User in Control” Paradigm Rethink the granularity of interaction

Traditional examples:

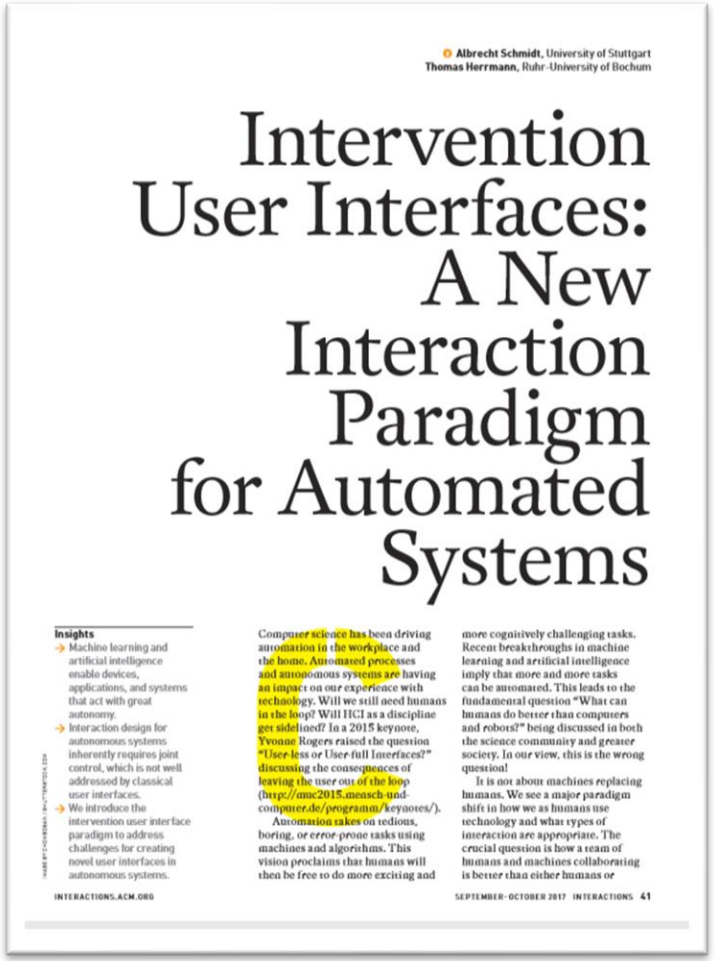
- Parking a car
- Trading stocks
- Unloading a ship

What about:
automated online orders
autonomous cars
Vacuum cleaning robots
…

- **Granularity of Control is key**
- The granularity of decision making as well as the timing changes, the notion of “being in control” should not.
- Designing for (perceived) **agency rather than for direct control**

How can humans stay in control?

In the future, we believe that a large class of automated and **autonomous systems** allow for **joint control**, where the majority of **decisions are automated** but where users can **intervene**.



Albrecht Schmidt, University of Stuttgart
Thomas Herrmann, Ruhr-University of Bochum

Intervention User Interfaces: A New Interaction Paradigm for Automated Systems

Insights

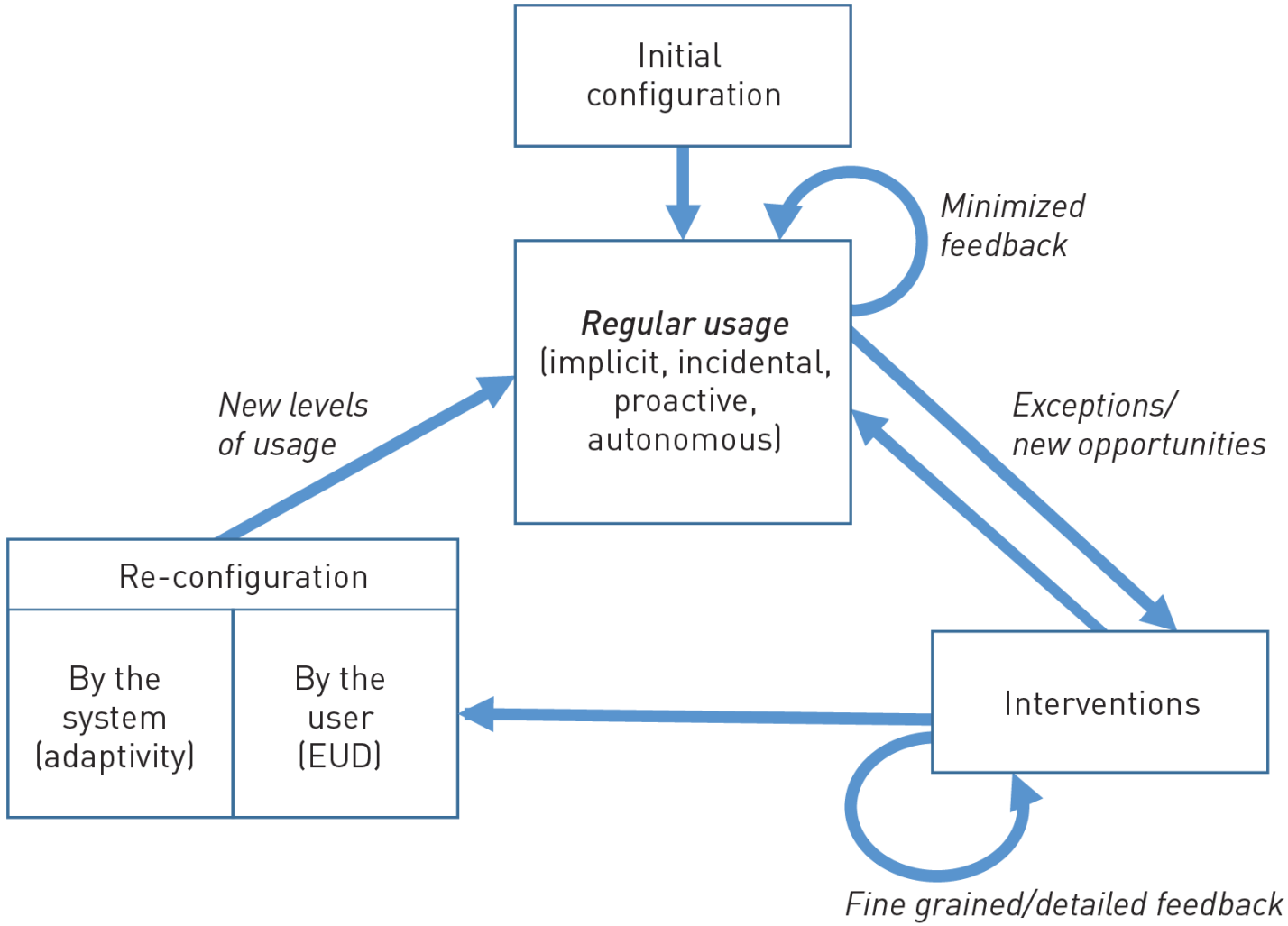
- Machine learning and artificial intelligence enable devices, applications, and systems that act with great autonomy.
- Interaction design for autonomous systems inherently requires joint control, which is not well addressed by classical user interfaces.
- We introduce the intervention user interface paradigm to address challenges for creating novel user interfaces in autonomous systems.

Computer science has been driving automation in the workplace and the home. Automated processes and autonomous systems are having an impact on our experience with technology. Will we still need humans in the loop? Will HCI as a discipline get sidelined? In a 2015 keynote, Yvonne Rogers raised the question "User-less or User-full Interfaces?" discussing the consequences of leaving the user out of the loop (http://mc2015.mensch-und-computer.de/programm/keynotes/).

Automation takes on tedious, boring, or error-prone tasks using machines and algorithms. This vision proclaims that humans will then be free to do more exciting and more cognitively challenging tasks. Recent breakthroughs in machine learning and artificial intelligence imply that more and more tasks can be automated. This leads to the fundamental question "What can humans do better than computers and robots?" being discussed in both the science community and greater society. In our view, this is the wrong question!

It is not about machines replacing humans. We see a major paradigm shift in how we as humans use technology and what types of interaction are appropriate. The crucial question is how a team of humans and machines collaborating is better than either humans or

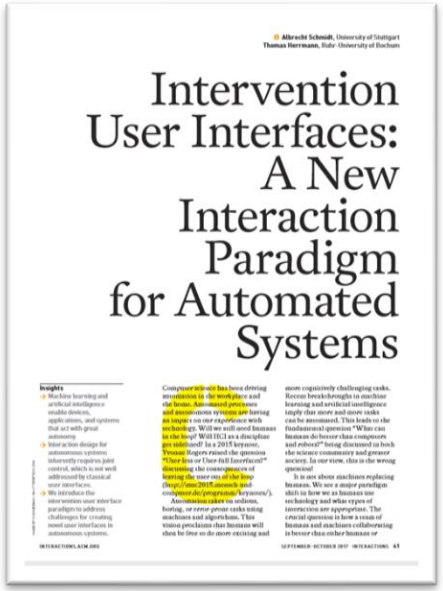
Interaction with Intervention User Interfaces



Design Principles for Intervention user interfaces

- Ensure expectability and predictability.
- Communicate options for interventions.
- Allow easy exploration of interventions.
- Easy reversal of automated and intervention actions.
- Minimize required attention.
- Communicate how control is shared.

For more details and a set of rules see:



Albrecht Schmidt, University of Stuttgart
Thomas Herrmann, Ruhr-University of Bochum

Intervention User Interfaces: A New Interaction Paradigm for Automated Systems

Intelligent Assistance or Automation?

- Automation
  - “take the train at 12:17 from platform 6”

- Assistance
  - “which do you want to take? train at 12:17 from platform 6 (takes 45 minutes) or bus at 12:15 from platform 3 (takes 50 minutes, is unreliable)”

How we present intelligent assistance to the user is critical for success

“Users don’t want to be told what to do, they want to choose”

Human-AI Collaborative Cognition

Automation …

- HABA MABA revisited
- Ironies of Automation revisited

Augmentation …

- externalize human memory and the ability to recall
- amplification of human perception
- increasing bandwidth between humans and cognitive offloading

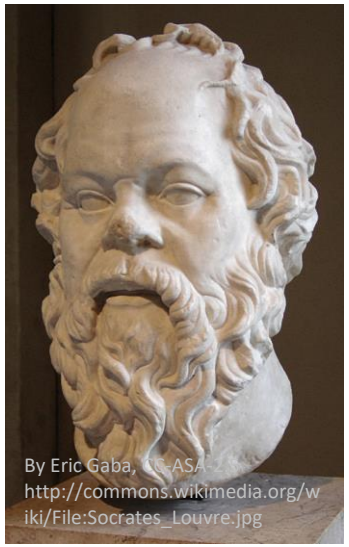
Collaboration …

- augmented synthesis of knowledge and skills
- creativity support and (sense of accomplishment)

Human Roles in Interaction are changing…

- design for delegation of tasks and intervention of processes
- rethinking thinking!
- we create reality not applications and user interfaces

Rethinking Thinking!



*"For this invention will produce **forgetfulness in the minds** […], will discourage the use of their own memory. […] they are not wise, but **only appear wise**."*

Socrates according to Plato on writing (nearly 2.500 years ago)

Plato. (1925). *Phaedrus* (H. N. Fowler, Trans.). In *Plato in twelve volumes* (Vol. 9). Cambridge, MA: Harvard University Press; London: William Heinemann Ltd. (Original work published 275a). Retrieved from https://www.perseus.tufts.edu/hopper/text?doc=urn:cts:greekLit:tlg0059.tlg012.perseus-eng1:275

$$47915 : 5 = 9583$$

$$\begin{array}{r}
-45 \\
\hline
29 \\
-25 \\
\hline
41 \\
-40 \\
\hline
15
\end{array}$$

Human-AI Collaborative Cognition

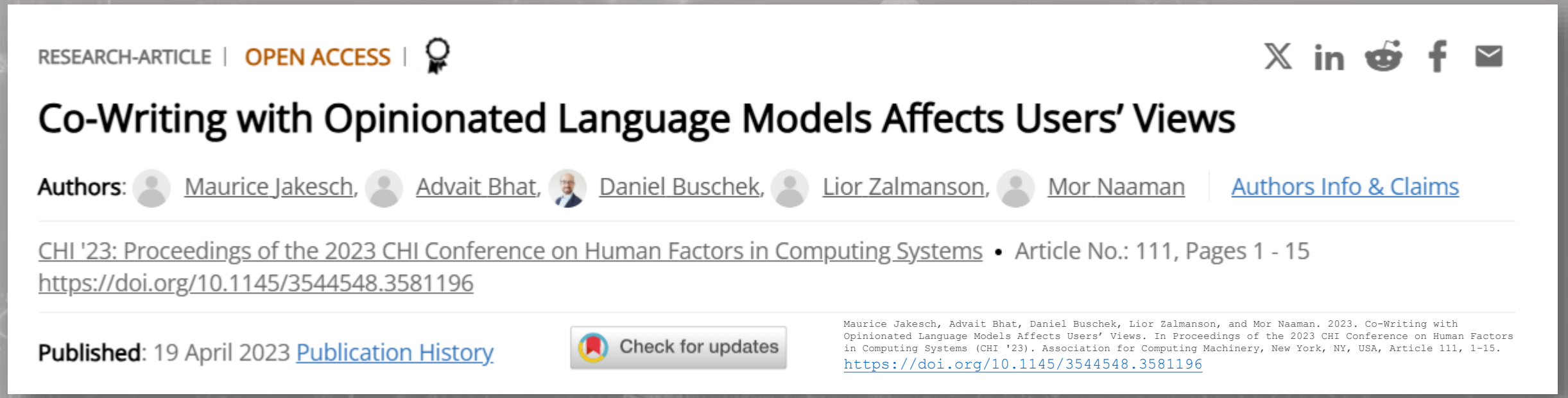
- Writing changed the world
- Human-Centered AI will start a similar transformation of our knowledge and information culture
- The transformation will be more radical and much faster that the transition from oral traditions to societies based on writing

National Museum of China, CC BY-SA 3.0
https://commons.wikimedia.org/wiki/File:Shang_dynasty_inscribed_tortoise_plastron.jpg

Images: AI created with midejourney.com

Risk 1

Humans lose motivation to learn and think for themselves



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

CHI '23: Proceedings of the 2023 CHI Conference on Human Factors in Computing Systems • Article No.: 111, Pages 1 - 15
https://doi.org/10.1145/3544548.3581196

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https://doi.org/10.1145/3544548.3581196

Risk 2
We create tools to seamlessly manipulate people (by accident?)

Images: AI created with midejourney.com

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What is real?

Future reality is largely designed by people!

By people who create automation, algorithms and UIs and who develop intelligent interactive systems.

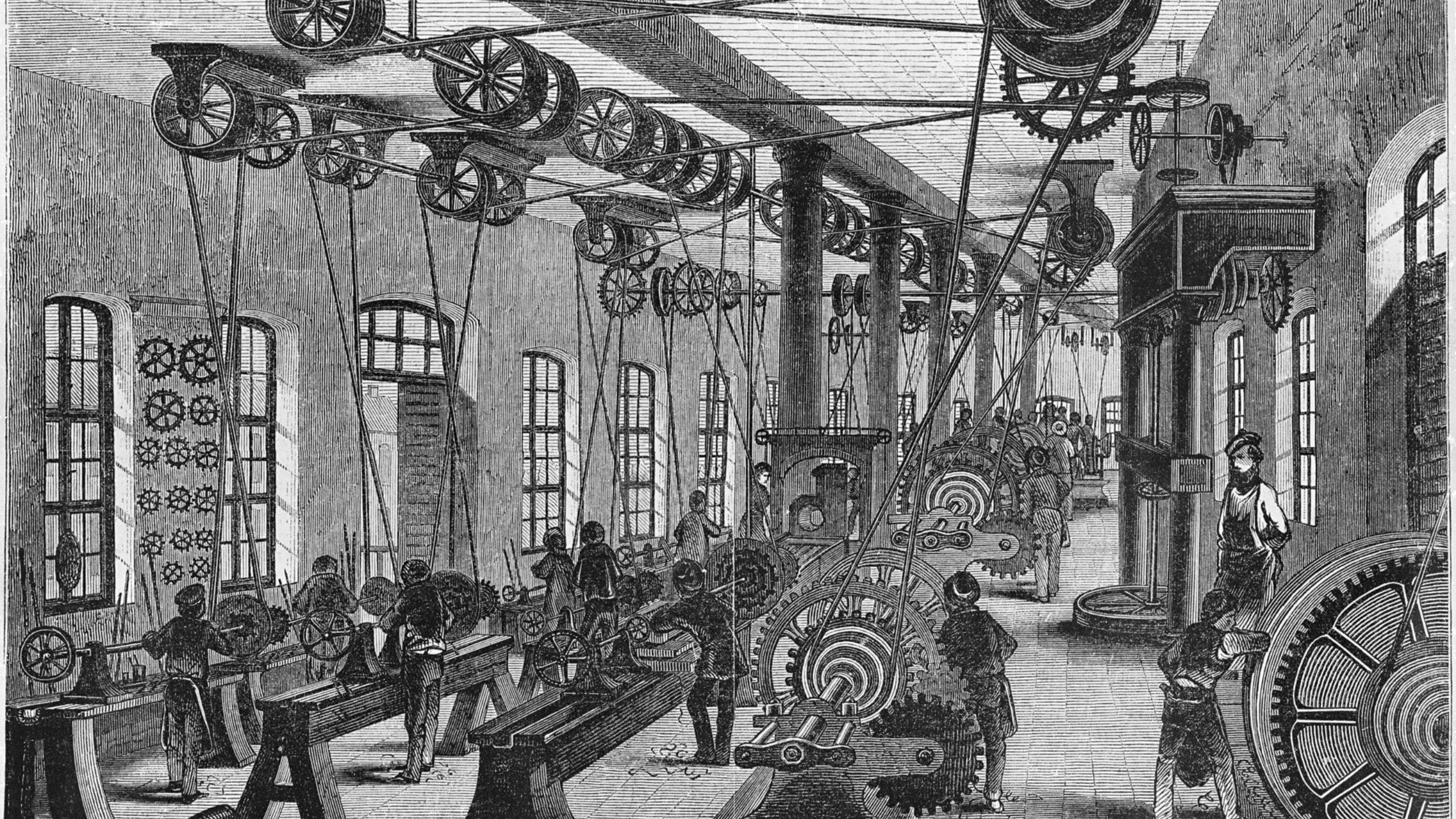
We shape our buildings;
thereafter they shape us.

Winston Churchill

We shape our digital reality; thereafter it shape us.

Who is „we"

We shape our reality;
thereafter it shape us.

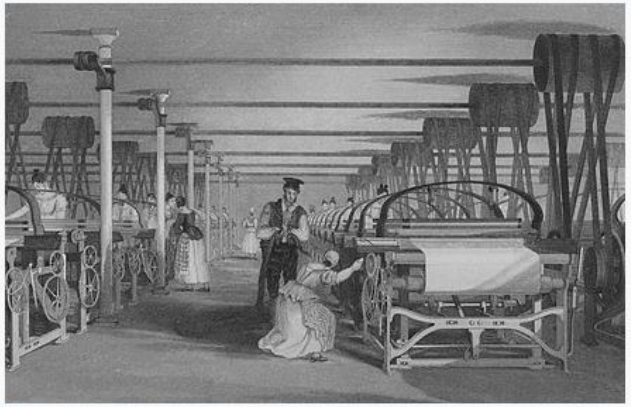


What do you know about the industrial revolution?

“Industrialization (US) is the period of **social and economic change that transforms a human group from an agrarian society into an industrial society**. This involves an extensive reorganisation of an economy for the purpose of manufacturing.[...] The reorganisation of the economy has many **unintended consequences both economically and socially**. As industrial workers' **incomes rise**, markets for **consumer goods and services** of all kinds tend to expand and provide a further stimulus to industrial investment and **economic growth**. Moreover, **family structures** tend to shift as extended families tend to no longer live together in one household, location or place.”
https://en.wikipedia.org/wiki/Industrialisation

Industrial Revolution

c. 1760 – c. 1840



A Roberts loom in a weaving shed in the United Kingdom in 1835

Location	Western Europe North America
Key events	Mechanised textile production Canal construction Steam engine Factory system Iron production increase

https://en.wikipedia.org/wiki/Industrial_Revolution

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What Human-AI (or Human-Robot) Relationship do we aspire to?

AI companion that augments us and increases our superpowers?

AI that becomes part of an adverse environment?

HABA-MABA (1951)
humans are better at –
machines are better at

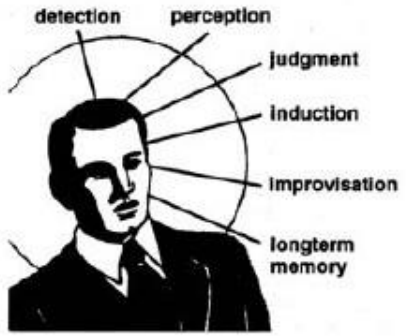
Assistance

Augmentation

Automation

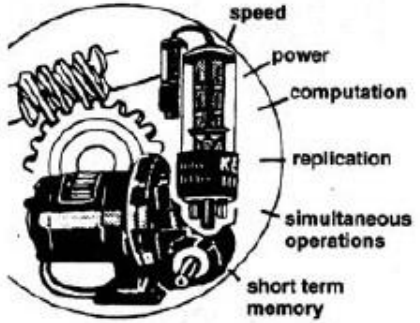
Fitts, P.M., ed. Human Engineering for an Effective Air Navigation and Traffic Control System. Washington, D.C.: National Research Council, 1951.
https://apps.dtic.mil/sti/pdfs/ADB815893.pdf
cites according and image from Bradshaw, Jeffrey M., et al. *Human–Agent Interaction*. Nov. 2017, https://doi.org/10.1201/9781315557380-14.

HUMANS SURPASS MACHINES IN THE:



- Ability to detect small amounts of visual or acoustic energy
- Ability to perceive patterns of light or sound
- Ability to improvise and use flexible procedures
- Ability to store very large amounts of information for long periods and to recall relevant facts at the appropriate time
- Ability to reason inductively
- Ability to exercise judgment

MACHINES SURPASS HUMANS IN THE:



- Ability to respond quickly to control signals, and to apply great force smoothly and precisely
- Ability to perform repetitive, routine tasks
- Ability to store information briefly and then to erase it completely
- Ability to reason deductively, including computational ability
- Ability to handle highly complex operations, i.e., to do many different things at once.

Assistance – Augmentation – Automation

- Check if an **AI system can perform the task better than a human**.
  If yes, determine if there **is a reason for a human to perform this task**.
  - If there is **no** reason, **automate** the task.
  - If there is a reason, proceed to the next step or question.
- Check if the **AI system can support the human**.
  - If the AI system can support the human, design **an assistance system**.
  - If the AI system cannot support the human, the **human should take over** and perform the task.

Assistance – Augmentation – Automation

- **Check if people love doing the task and if they think they are good at it.**
  - if yes, think really hard if you want to automate the task!
- Check if an **AI system can perform the task better than a human**.
  If yes, determine if there **is a reason for a human to perform this task**.
  - If there is **no** reason, **automate** the task.
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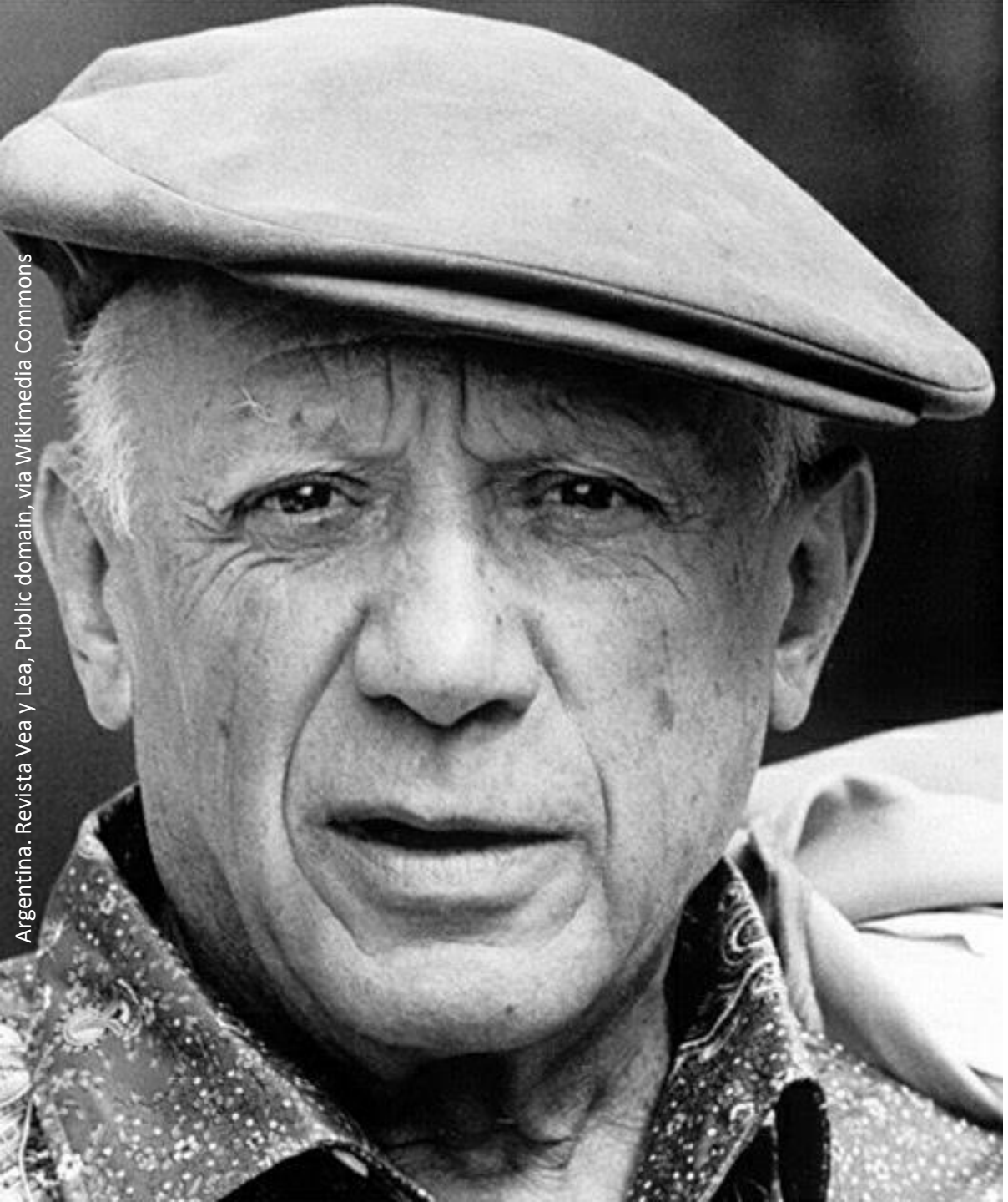

Art is the elimination of the unnecessary.

Pablo Picasso

A conceptual view on Human-AI interaction

User

amplified vision/hearing
sensory experiences

human expression and
manipulation, explicit
and implicit control

f

visual/auditory/…
signals

Manipulation of the
physical world

Reality

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- ERC Amplify
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- MCML.AI

European Research Council
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HUMANE AI NET

Bundesministerium für Bildung und Forschung

Reality Design: Shaping Experiences Beyond Interfaces through Human-Centered AI

Albrecht Schmidt, LMU Munich.

Abstract. With new AI systems, we expect a transition from tools that enable automation and augmentation to systems that become our partners. Collaborative partners in cognition and execution, changing the nature of human-AI relationships. We are moving beyond assistance. AI is increasingly capable of reasoning, decision making and creative problem solving, enabling coarse-grained autonomous action. In such a context, how do we design systems that support meaningful human involvement? How can we facilitate effective delegation of tasks and decisions to AI? What new interaction paradigms will emerge that enable trust and shared understanding? Can there be effective and meaningful teamwork between humans and AI? This talk raises fundamental questions about how we want to move beyond automation and explores ideas for human-AI collaborative cognition. We discuss strategies to ensure hybrid automation experiences that are empowering for users and aligned with human values.

Short Bio. Albrecht Schmidt is Professor of Computer Science at the Ludwig-Maximilians-Universität (LMU) in Munich, where he holds the Chair for Human-Centered Ubiquitous Media. His research and teaching interests are human-centered artificial intelligence, intelligent interactive systems, ubiquitous computing, digital media technologies, and digital technologies for human augmentation. He studied computer science in Ulm and Manchester and received his PhD from Lancaster University in 2003. Albrecht was the conference co-chair of the ACM SIGCHI 2023 conference, he is on the editorial board of the ACM TOCHI journal, and he is the co-founder of the ACM conference TEI and Automotive User interfaces. He was inducted into the ACM SIGCHI Academy in 2018, elected to the German Academy of Sciences Leopoldina in 2020, and named an ACM Fellow in 2023.

https://uni.ubicomp.net/as/

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https://scholar.google.com/citations?user=qM5jR7YAAAAJ