

ATT LEDA ELLER FÖRLEDAS AV AI – NY TEKNIK, NYA MÖJLIGHETER OCH NYA UTMANINGAR

MIKAEL WIBERG, PROFESSOR
INSTITUTIONEN FÖR INFORMATIK
UMEÅ UNIVERSITET



ChatGPT

The screenshot displays the ChatGPT web interface. On the left is a dark sidebar with a list of chat sessions and settings. The main content area on the right features the 'ChatGPT' title and three columns: 'Examples' with sample prompts, 'Capabilities' with features like memory and follow-up corrections, and 'Limitations' with caveats such as occasional incorrect information and knowledge cutoff. At the bottom is a text input field with a cursor and a green 'G' logo button.

chat.openai.com/chat

produkter.smhi.se... interactions — Cu... Umeå Universitet... Kronaby - Shop St... philip_metro mode

+ New chat

"ChatGPT Explained"

ChatGPT Future Uses.

Peniche - Tourist Destination

Peniche Tourist Destination

Design And Ethics Learning

Mikael Wiberg Info Unavailabl

New chat

Design Research Introduction

Introduction to Interaction De

Research Method Overview F

Fast Design Research Metho

IoT Sustainability Abstract

Clear conversations

Upgrade to Plus **NEW**

Dark mode

Updates & FAQ

ChatGPT

Examples

"Explain quantum computing in simple terms" →

"Got any creative ideas for a 10 year old's birthday?" →

"How do I make an HTTP request in Javascript?" →

Capabilities

Remembers what user said earlier in the conversation

Allows user to provide follow-up corrections

Trained to decline inappropriate requests

Limitations

May occasionally generate incorrect information

May occasionally produce harmful instructions or biased content

Limited knowledge of world and events after 2021

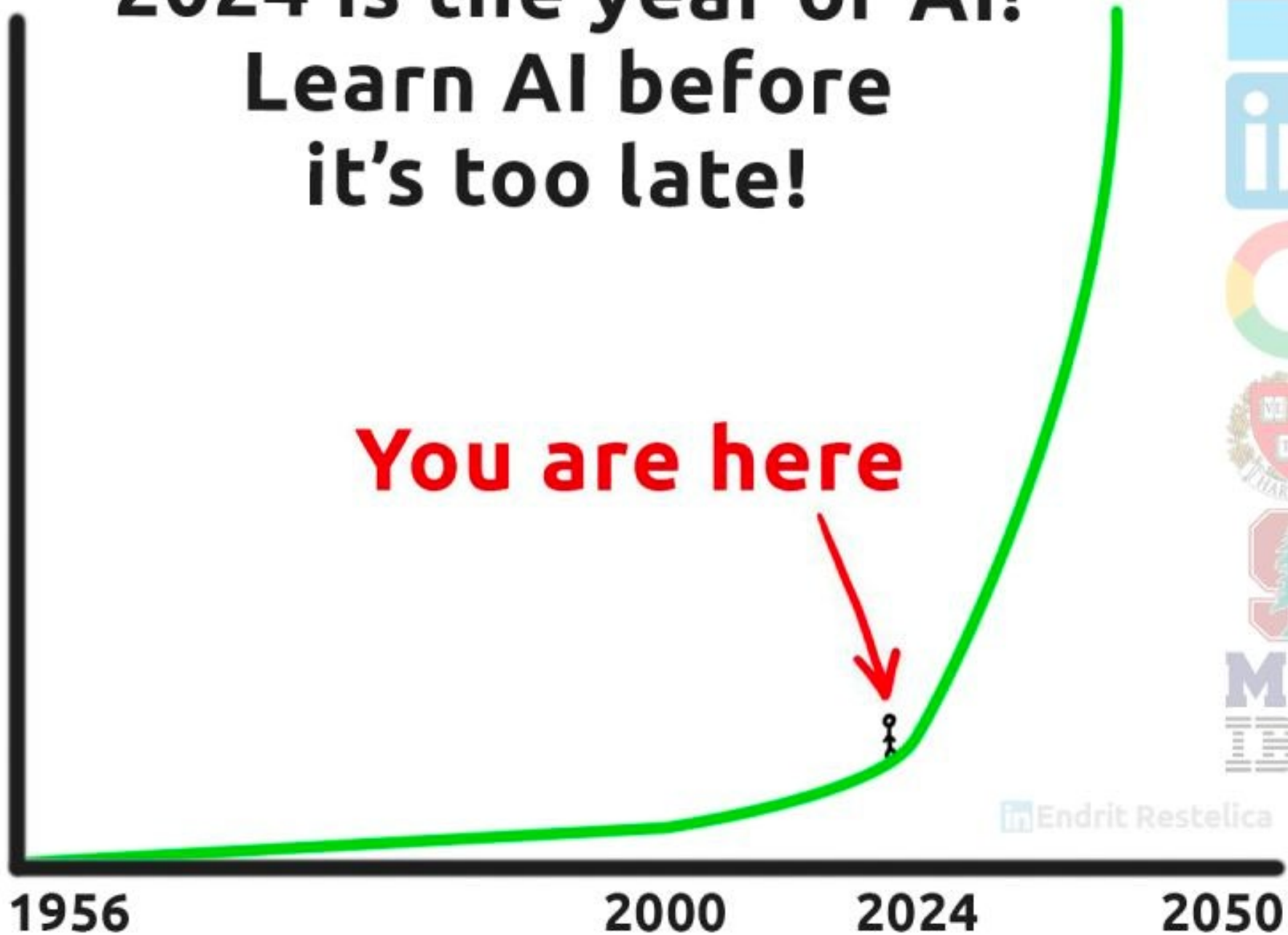
|

3rd Wave Artificial Intelligence

	First Wave (1950s–1970s)	Second Wave (1980s–1990s)	Third Wave (2006–)
Major advances in technologies	Early symbolism and connectionism school, production systems, knowledge inference, preliminary expert systems	Statistical model in speech recognition and machine translation, artificial neural network in pattern recognition, expert systems	Breakthroughs in applications of deep learning in speech recognition, pattern recognition, big data, high-performance computers
Human needs	Not satisfied	Not satisfied	Starting to provide useful and real problem-solving AI solutions
Focus	Technological solutions	Technological solutions	Integrated solutions: ethical design, technological enhancement, human factors design
Characteristics	Academia driven	Academia driven	Technological enhancement and application + a human-centered approach

2024 is the year of AI!
Learn AI before
it's too late!

You are here



Endrit Restelica



GENERATIVE AI

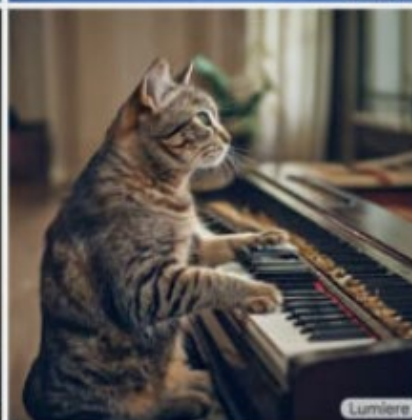
Capacity of
"relating to or
capable of
production or
reproduction"

AN ELEPHANT WITH A PARTY HAT—UNDERWATER—

Google's latest AI video generator can render cute animals in implausible situations

Lumiere generates five-second videos that "portray realistic, diverse and coherent motion."

BENJ EDWARDS - 1/24/2024, 11:45 PM



LUMIERE

a space-time diffusion model that can generate realistic and stylized videos, including creating videos of cute animals in implausible situations, animating still images, and offering various video editing capabilities.

"FutureTools Collects & Organizes All The Best AI Tools So YOU Too Can Become Superhuman!"

Search - Try things like "YouTube" or "SEO" to find specific tools for your needs...

- | | | | | | |
|---|--|---|---|---|--|
| <input type="checkbox"/> AI Detection | <input type="checkbox"/> Aggregators | <input type="checkbox"/> Avatar | <input type="checkbox"/> Chat | <input type="checkbox"/> Copywriting | <input type="checkbox"/> Finance |
| <input type="checkbox"/> For Fun | <input type="checkbox"/> Gaming | <input type="checkbox"/> Generative Art | <input type="checkbox"/> Generative Code | <input type="checkbox"/> Generative Video | <input type="checkbox"/> Image Improvement |
| <input type="checkbox"/> Image Scanning | <input type="checkbox"/> Inspiration | <input type="checkbox"/> Marketing | <input type="checkbox"/> Motion Capture | <input type="checkbox"/> Music | <input type="checkbox"/> Podcasting |
| <input type="checkbox"/> Productivity | <input type="checkbox"/> Prompt Guides | <input type="checkbox"/> Research | <input type="checkbox"/> Self-Improvement | <input type="checkbox"/> Social Media | <input type="checkbox"/> Speech-To-Text |
| <input type="checkbox"/> Text-To-Speech | <input type="checkbox"/> Text-To-Video | <input type="checkbox"/> Translation | <input type="checkbox"/> Video Editing | <input type="checkbox"/> Voice Modulation | |
- ☐ Free
 ☐ Freemium
 ☐ GitHub
 ☐ Google Colab
 ☐ Open Source
 ☐ Paid

☐ Matt's Picks

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Cheat Layer 

We Taught ChatGPT To Build Any Complexity Of Automations For You, Meeting All Users At The

The first chatGPT automation platform.

wonderchat

Build AI chatbots in 5 minutes with sitelinks or PDF files from your knowledge base

Wonderchat 

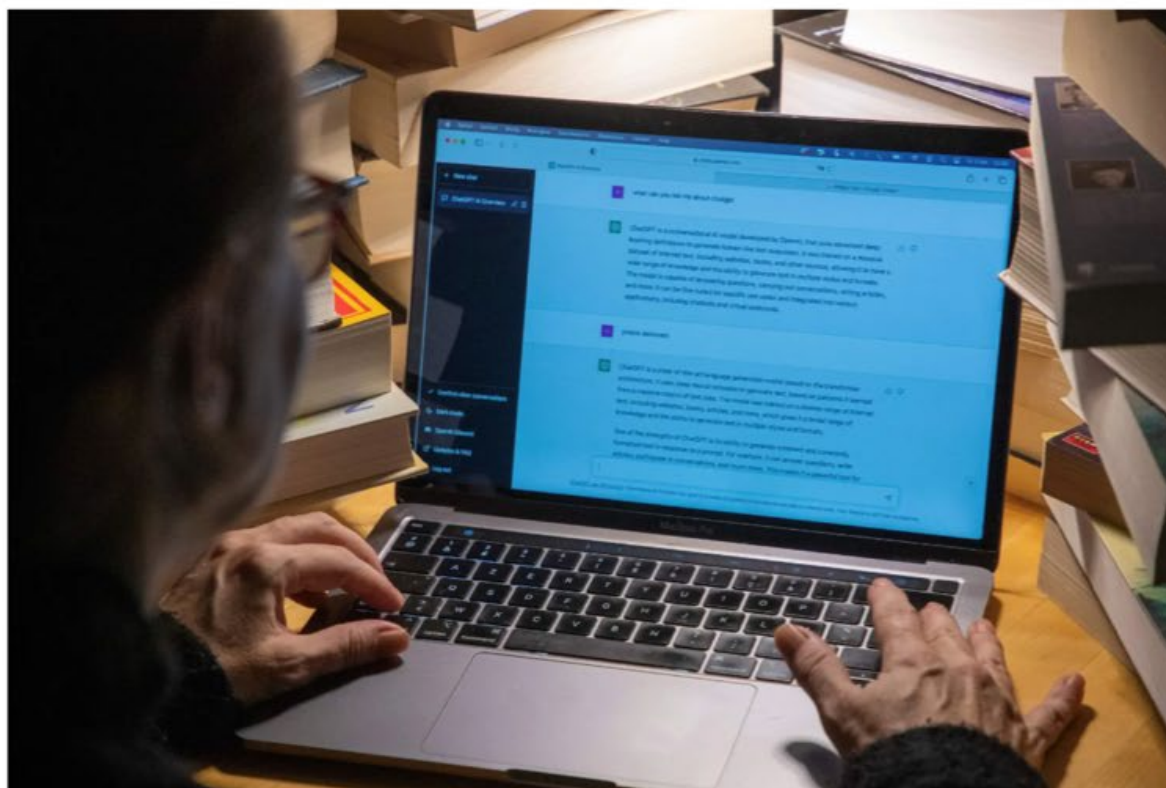
Instantly build embeddable AI chatbots from your website links or PDF files



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'Prompt engineering' is one of the hottest jobs in generative AI. Here's how it works.

Aaron Mok Mar 1, 2023, 10:30 AM



Prompt engineers are experts in writing prose rather than code to test AI chatbots.

Nicolas Maeterlinck / Getty Images



Elizabeth Churchill


Mikael Wiberg,
Umeå University

So, There's an AI Revolution? and Other Stories

Welcome to the September–October issue of *Interactions*! This issue brings together a number of topics, from reflections on artificial intelligence to considerations of how delightful app experiences can fall foul of product acquisitions and the decisions made around them.

As everyone has noticed, over the past few months the world has been churning around the impact of new innovations in AI, especially around large language models (LLMs). Big companies are vying to own the biggest leaps forward, and we are told we will be seeing many changes in how data is reimagined through the lens of AI, in how we as users will interact with information, in how we will engage and expand our creativity, and in how we will increase our productivity. With the superpowers brought to us through AI, there are huge promises being made about how we will benefit from the use of this technology—hyperbolic excitement about the potential gains AI will bring about, matched equally by profound concerns about inaccurate information dissemination, job losses, and more. Indeed, at the time of writing this, the film industry is reeling with concern about AI-developed scripts and simulated humanlike protagonists, where AI-generated content is deeply affecting the livelihood of screenwriters and actors. It is obvious that there is great potential for both positive and negative consequences.

Related to this latter concern, Bhautik Joshi's cover story directly addresses how AI tools and techniques

will affect creativity. Will creatives lose their jobs as a result of the AI “revolution”? His analysis suggests we should focus on what people can do with AI applications rather than on whether AI will replace human creators. Patrick Gage Kelley and Allison Woodruff share their approach to AI explainability, entreating us as designers and researchers to work on explaining the impact of AI tools and techniques at a more holistic level. Daniel Russell shares what he has been reading in the arena of human-centered AI, noting that things are changing so fast it is almost impossible to keep up.

Notably, one area on which we are hoping to see a lot more debate is the use of the term *intelligence*. As a metaphor, it is distracting and leads to some confusing conclusions about the power of contemporary AI-driven applications. One of the most important milestones in the early history of AI was the Turing test, proposed by Alan Turing in his 1950 paper “Computing Machinery and Intelligence.” The Turing test was explicitly designed to be a test of a machine's ability to *exhibit intelligent behavior equivalent to, or indistinguishable from, that of a human*. With the advances in deep learning, this debate is to some extent ramping up again, although arguably these models don't exhibit the characteristics of human intelligence and reasoning, even if their design is based on a model of neural activity in the human brain. We might need to look not only at comparisons with human intelligence but maybe also explore other metaphors, measurements, and models.

In a different sphere, Yuki Chen,

Jonaya Kemper, Erik Harpstead, Ross Higashi, and Judith Uchidiuno share research into their video game character-creation tool designed to offer character selection and customization for Black children. Too few options are typically offered, and studies showed how much the children enjoyed having a better range of skin tone, facial features, and hairstyles to choose from to create characters that they could relate to.

In addition to these articles, we are working on some new formats for sharing insights and perspectives. One example is Miriam Sturdee's *Conversations in Sketch*. Miriam will be interviewing HCI and UX professionals and illustrating conversations in a comic-style format. She will also be inviting other artists and “sketchnoters” to illustrate key themes and topics. As well as experimenting with new formats, we will be moving away from strongly themed issues toward loosely related features around topics like human-computer interaction and food, digital civics, and children and technology. We are aiming to include contributions that emphasize work at the intersection of design, research, engineering, and product development, while maintaining the magazine's focus on critical perspectives.

Finally, before closing, we'd like to invite submissions in all our current and emerging categories, and are seeking volunteers to curate content. Please get in touch if you have energy, time, and great ideas.

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From Humans to AI: A Timely Debate on Human-AI Relations

Welcome to the January–February issue of *Interactions*! Taking a moment, we've been thinking about the “new year” and the idea of shared time and calendaring—and about how so much of our lives is managed by various kinds of calendars. When it comes to the year, now 2024, we are working on the globally recognized Gregorian calendar, introduced in 1582 by Pope Gregory XIII. Its broad adoption over centuries was transformative for global communication and trade; it promoted standardization, reducing confusion and inconsistencies when it came to arranging meetings, agreeing on time-lines and deadlines, and orchestrating multichannel and multi-stakeholder trade negotiations. Its adoption was particularly important for the Catholic Church, for whom maintaining the accuracy of the date of Easter was paramount. The Gregorian calendar has had a lasting impact on history, science, and global affairs, providing a more accurate framework for recording events and tracking the passage of time, an essential factor for historical research and scientific studies. Can you imagine the extra work involved in scheduling research studies or organizing conferences without an agreed calendar?

Which brings us to this issue of *Interactions*.

While we have taken a number of things for granted in HCI/IXD over the past few decades, including a focus on human-centered design, human activities and labor, and ways of designing interactive tools for people, some of these ideas are now being challenged as we move toward completely entangled human-AI relationships. In that

vein, kicking off 2024, our cover story foregrounds discussion on human-AI relations by focusing on the value of AI approaches and techniques. As of January 2024, we have all endured almost a year of marketing, as well as research and engineering advances, in AI approaches. Scholars and practitioners of HCI, IXD, and UX have been busy considering if and how we need to “rebrand” ourselves, exploring potential changes in our thinking about our domain and in our daily practice. Our cover story this issue, authored by Albrecht Schmidt, Passant Elagroudy, Fiona Draxler, Frauke Kreuter, and Robin Welsch, addresses whether large language models (LLMs) and generative AI will change the way we design and implement interactive systems. Reminding us that human-centered design (HCD) puts the human at the center of interactive systems design, the authors pose several questions, including: Can we use AI techniques and conduct HCD explorations without actively including people in the process? And would such approaches still be considered HCD? Through examples, they explore these questions and leave us with food for thought about the changing nature of HCD, UX, and HCI in the era of AI and LLMs.

In addition to our cover story, we have a feature article from Wei Xu and Zaifeng Gao exploring frameworks for human-AI teaming (HAT) as a new design paradigm. They propose a conceptual framework of human-AI joint cognitive systems (HAJCS) and offer a summary of how to evaluate the nature of the human-AI relationship.

Neven ElSayed, Eduardo Veas, and Dieter Schmalstieg use a comic book format to explore a speculative design

scenario around readily available, personalized, on-the-go mobile analytics. Thinking beyond steps counted by the sensors on your watch or phone, the authors explore how augmented reality in real-world settings could help people interact with analytics that count, quantify, and reflect their personal activities and behaviors.

In her first column for *Interactions*, Jie Li walks us through the pros and cons of A/B testing in corporate contexts. She reminds us that, while we think of A/B testing as part of our digital landscape of everyday interaction, such tests have been conducted in many contexts over decades. Local supermarkets and department stores run what are essentially A/B tests; for example, Li writes, “they might rearrange popular products at the entrance or back of stores, or change the direction of escalators to evaluate which variation optimizes customer shopping flows or generates more sales”—that is, what we in the online app and service world call *engagement*.

Finally, our Exit offering returns to the core, most highly valued items on the Internet: cats! In their exploratory art-meets-science work, researchers at the University of Nottingham and artist collective Blast Theory have created a space for cats (yes, real cats that purr) where AI is in the service of entertaining and creating an ideal play environment for cats. According to Blast Theory, Cat Royale is “a utopia where cats live in harmony with artificial intelligence,” including an AI-backed robot that plays with them.

We hope you enjoy this issue of *Interactions*! As always, we invite you to consider submitting to the magazine.

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Transforming boundaries: how does ChatGPT change knowledge work?

Paavo Ritala, Mika Ruokonen and Laavanya Ramaul

Released in late 2022, ChatGPT took the world by storm and was quickly adopted by knowledge workers across a wide variety of sectors and fields. While artificial intelligence (AI) technology was previously used mostly behind the scenes to improve the algorithms of consumer and enterprise software, ChatGPT is now directly and noticeably changing the work habits of both tech-savvy and everyday users. Tapping into the potential of ChatGPT and generative AI more broadly is on the agenda of companies, managers and entrepreneurs across the globe, given the major productivity potential available from this new general-purpose technology.

ChatGPT, which was developed by the company OpenAI, is based on a large language model that is built using a technique known as reinforcement learning with human feedback. In practice, this means that the language model (GPT-4) is pre-trained with massive amounts of data and information available on the public Web and in databases before being fine-tuned with human feedback to provide responses that are useful and accessible. What is revolutionary about ChatGPT are its generative and conversational features, which enable easier and broader access to the capabilities of an AI system than has previously been available. In fact, recent studies estimate that GPT models will affect at least some work tasks of about 80% of all workers, with a smaller subset of more knowledge-intensive workers seeing a majority of their tasks impacted (Eloundou *et al.*, 2023).

Generative AI represents a new paradigm in AI systems and means that AI can exhibit and mimic human creativity, making it increasingly useful in creative and knowledge-intensive careers like advertising, publishing, entertainment and software coding and application development (Berg *et al.*, 2023; Dwivedi *et al.*, 2023). Use cases of ChatGPT range from writing and correcting marketing materials, business plans, legal documents and software code all the way to drafting email responses, summarizing text, translation and identifying anomalies, errors and defects in textual materials. Recent studies have shown that ChatGPT's performance on some knowledge work tasks surpasses the quality of human workers (Gilardi *et al.*, 2023).

Conversational AI refers to AI systems that can interact with users, providing easier access and more intuitive user interfaces. These aspects of ChatGPT further improve the system's ability to help knowledge workers and provide better access to the current generative capabilities than what was previously available. What is now called "prompting" or "prompt engineering" refers to the activity and craft of using textual commands and input by users to interact with ChatGPT. Such iterations provide additional value for users by providing follow-up prompts and improving the outcomes of the generative model by further refining the results in the desired direction. For instance, users can ask for a different style, provide new information or ask to have the output summarized in a different way.

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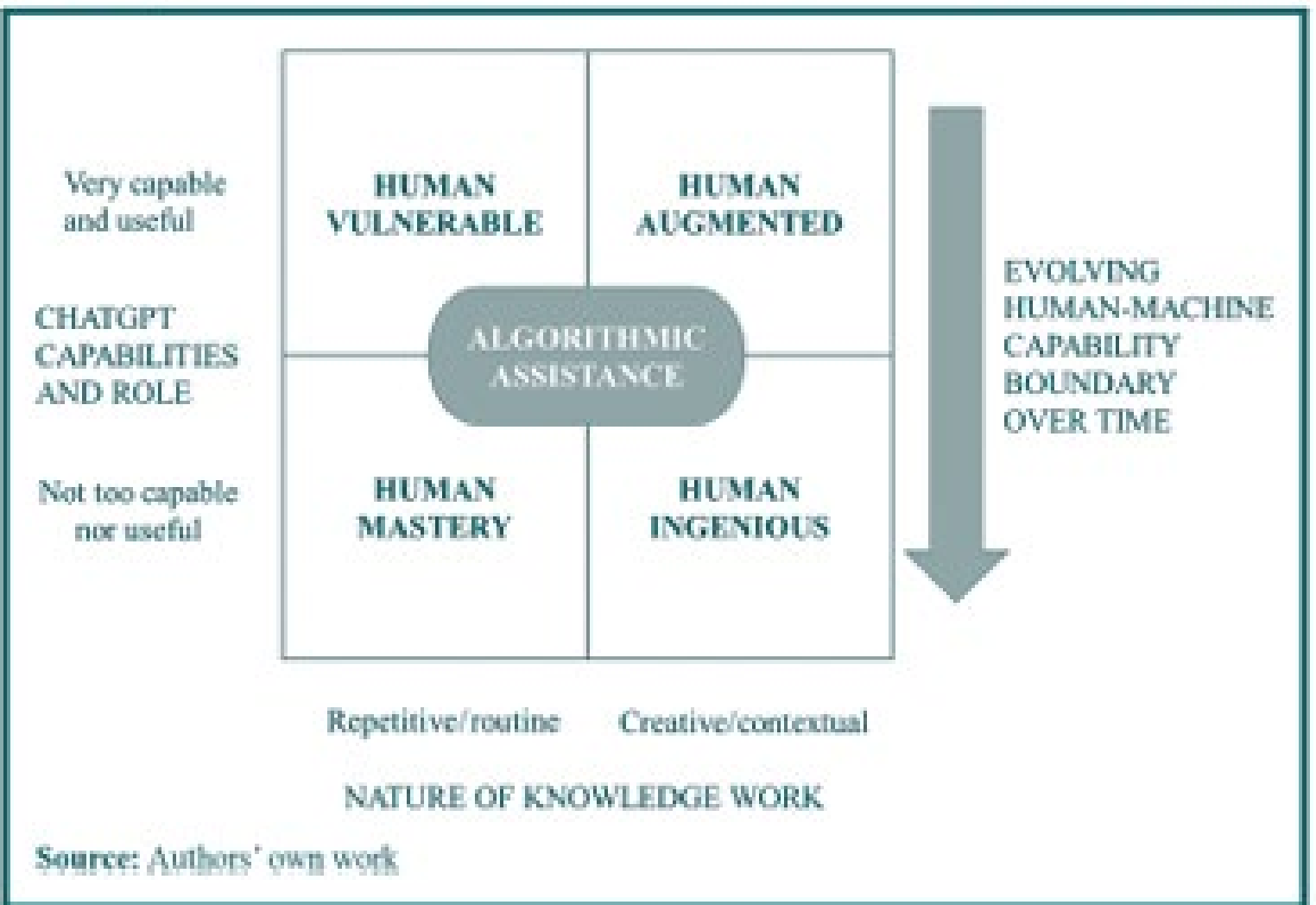
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Figure 1 ChatGPT and the boundaries of algorithmic assistance in knowledge work



SPEAKING HUMAN--BEYOND HUMANIZING AI

Authors:

Elizabeth F. Churchill, Mikael Wiberg



Welcome to the May–June 2024 issue of *Interactions*! Our cover this issue reflects something that has been top of mind for many of us: the ways in which we interact with AI systems.

Many of us have already experienced how output from large language model (LLM) systems can be superficial and nonhuman, leaving us with an uncanny sense of disquiet. While LLMs can deftly produce written text or images based on prompts, there is still something missing—for example, the ability to respond to queries with questions that unpack nuance and ambiguity—basically, to collaborate on understanding in a way another human might. This has led to the development of a broad spectrum of new digital tools that paraphrase and ask further questions in an attempt to make AI speak human.

Notably, this is simply the latest chapter in a decades-long story of establishing humanlike human-AI conversations. The Turing test asks a human interrogator to distinguish between a machine and another human in conversation. While some believe AI systems are close to passing that test, others say, "No way." and tell us that this is the wrong test. Most believe current AI can mimic human conversation by processing language patterns but that current AI conversation lacks "genuine" deep understanding. Certainly, current AI systems struggle with concepts that are intuitive to humans. They fail to grasp context, social cues, and empathy or to make logical connections the way humans do. In response to this, training in "prompt engineering" is growing as humans learn to speak to AI tools.

How about going the other way and exploring a human-centered, rather than a machine-centered, approach to human-AI conversations?

This of course raises the question: How about going the other way and exploring a human-centered, rather than a machine-centered, approach to human-AI conversations?

2024



2023



2022



2021



2020





16:24

5G 67



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Förslag för dig · Caleb Gilbert · 27

dec. 2023 ·

Not sure what it is but I want it



Gilla

Kommentera

Dela



NYT vs OpenAI and Microsoft: Three Scenarios with a Big Impact on Our Digital Environment

It was bound to happen. On December 27, 2023, The New York Times sued OpenAI and Microsoft for mass copyright infringement related to how the companies used the publisher's content as training data for their generative artificial intelligence systems. The lawsuit is the latest and the most high-profile case in a string of similar lawsuits that have been filed against AI companies recently.

According to the [case documents](#), the The New York Times wants OpenAI and Microsoft to stop using its content as training data and to destroy the content from their systems along with the models trained on the content. This would not only require re-training systems such as ChatGPT with potentially poorer training data but also open the door for other copyright owners to require OpenAI and Microsoft to do the same.

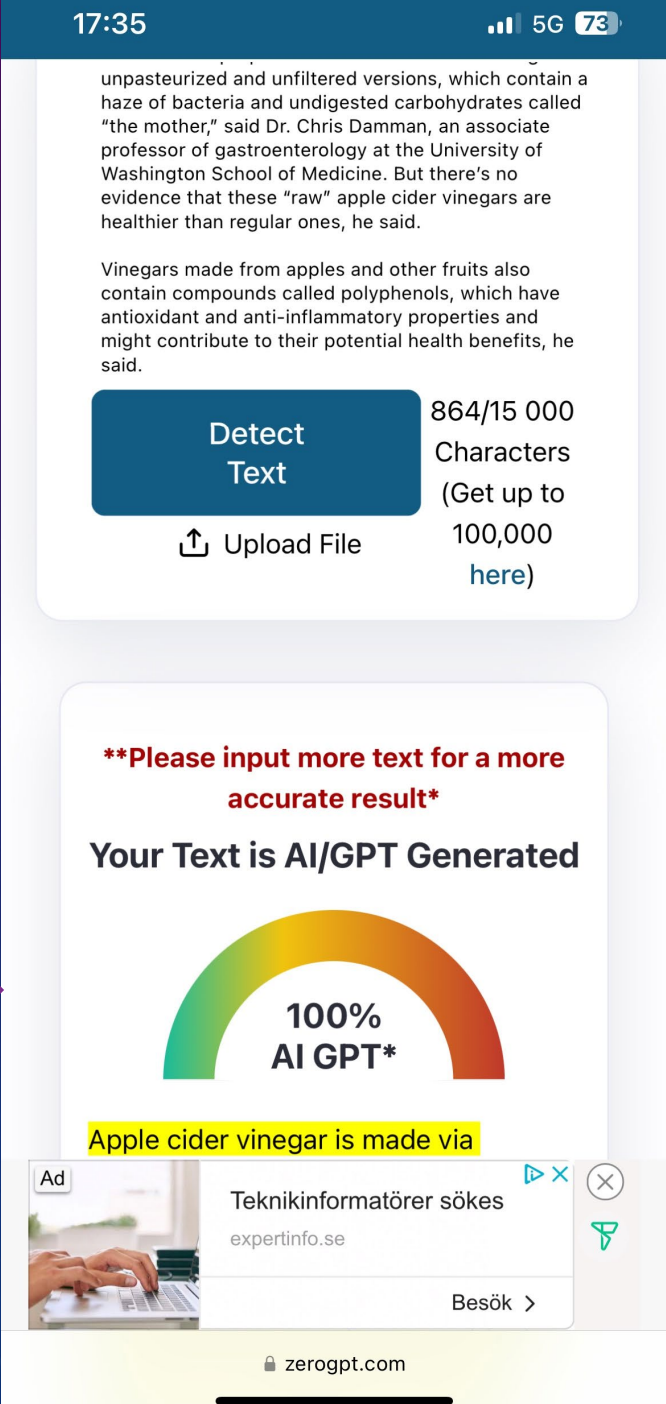
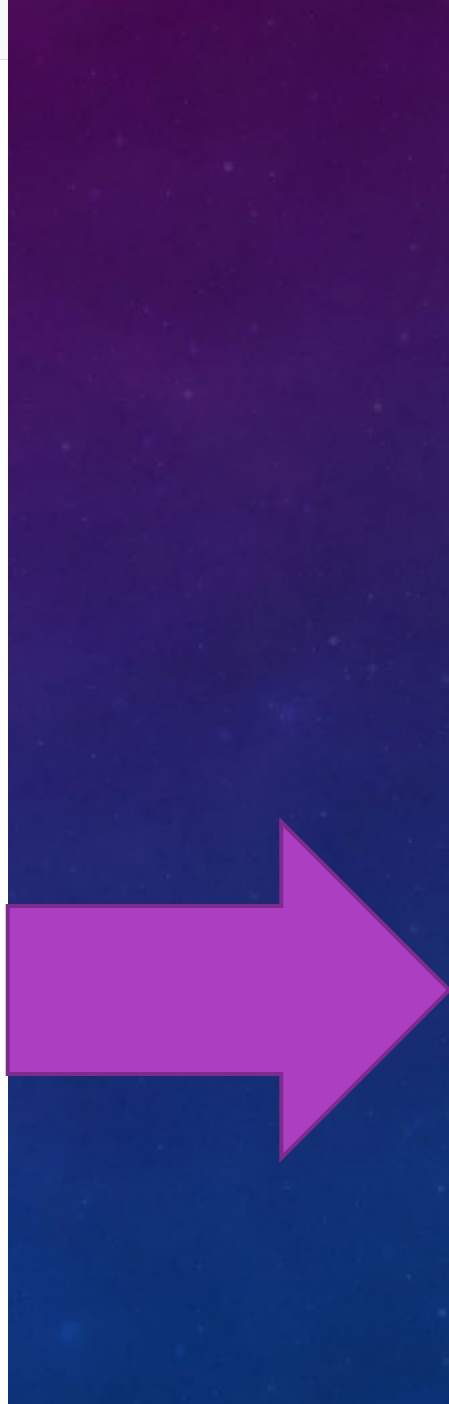
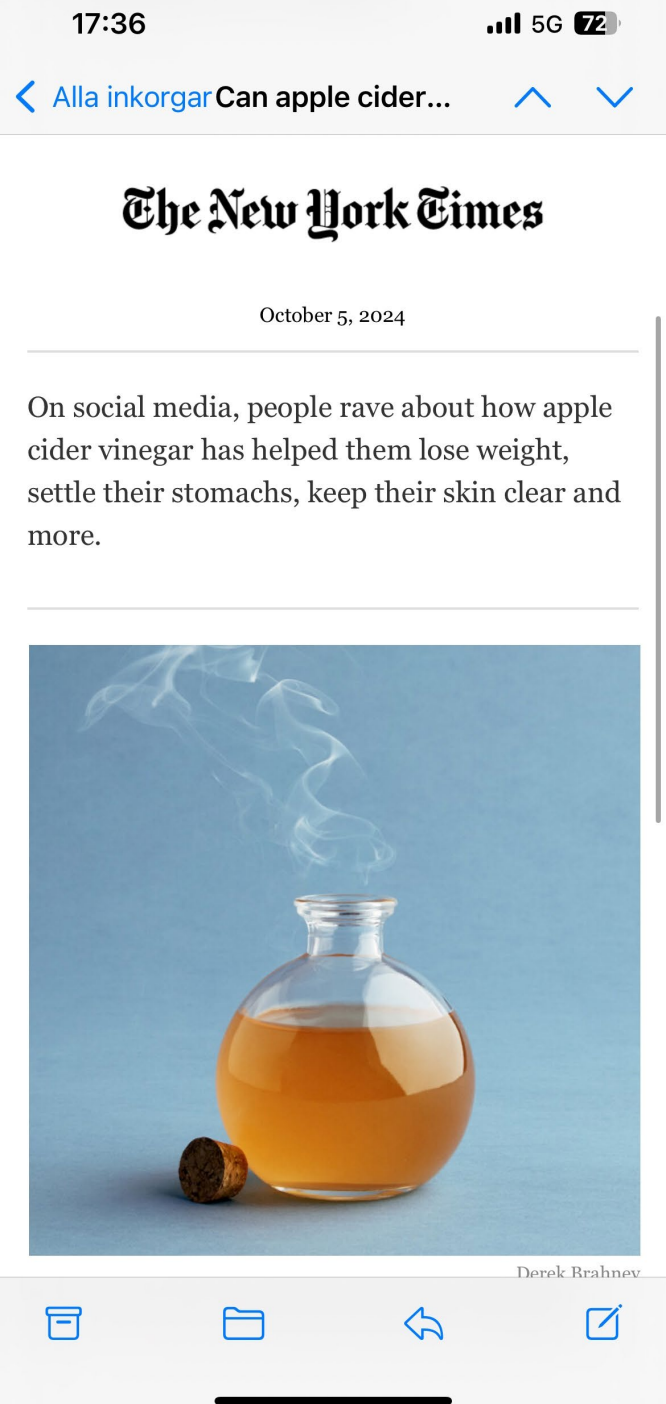
The case is built on two arguments.

First, The New York Times argues that the defendants have already benefited

First, The New York Times argues that the defendants have already benefited commercially and aim to further benefit from derivative products unlawfully based on the copyrighted content. In other words, the financial interests of the company and its shareholders are being violated. Second, The New York Times argues that its capacity to fund high quality journalism is at stake and, more generally, journalism in general if technology companies are allowed to scrape and use copyrighted content under the fair use doctrine.

A lot is at stake in the lawsuit that may turn out to be a watershed moment in the evolution of AI. Generative AI is just as much about the data than the algorithms.

In some ways, the situation is analogous to the rise of search engines twenty years ago. Search engines indexed everyone's content and started selling advertisements next to the index, rerouting massive amounts of advertising money away from publishers. Yet, search engines by design





The “hidden” or invisible materialty of AI - ENERGY

The energy required to run AI tasks is already accelerating with an annual growth rate between 26% and 36%. This means by 2028, AI could be using more power than the entire country of Iceland used in 2021. The AI lifecycle impacts the environment in two key stages: the training phase and the inference phase. World economic forum 25 Apr 2024

Researchers estimated that creating GPT-3 consumed 1,287 megawatt hours of electricity and generated 552 tons of carbon dioxide equivalent, the equivalent of 123 gasoline-powered passenger vehicles driven for one year. And that’s just for getting the model ready to launch, before any consumers start using it.

<https://www.scientificamerican.com/article/a-computer-scientist-breaks-down-generative-ais-hefty-carbon-footprint/>



COP28

A 'thirsty' generative AI boom poses a growing problem for Big Tech

PUBLISHED WED, DEC 6 2023•1:40 AM EST | UPDATED WED, DEC 6 2023•6:15 AM EST

**Sam Meredith**

@IN/SAMUELMEREDITH

@SMEREDITH19

WATCH LIVE

KEY POINTS

- A global rush for the next wave of generative artificial intelligence is increasing public scrutiny on Big Tech's expanding water footprint.
- Shaolei Ren, a researcher at the University of California, Riverside, recently published a study investigating the resources needed to run buzzy generative AI models, such as OpenAI's ChatGPT.
- Ren and his colleagues found that ChatGPT gulps 500 milliliters of water for every 10 to 50 prompts, depending on when and where the popular chatbot is deployed.

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AI's bridges between human knowledge and endless solutions

In fields as diverse as civil engineering and medicine, AI is coming up with new ways — and materials — to improve quality of life.

Produced by

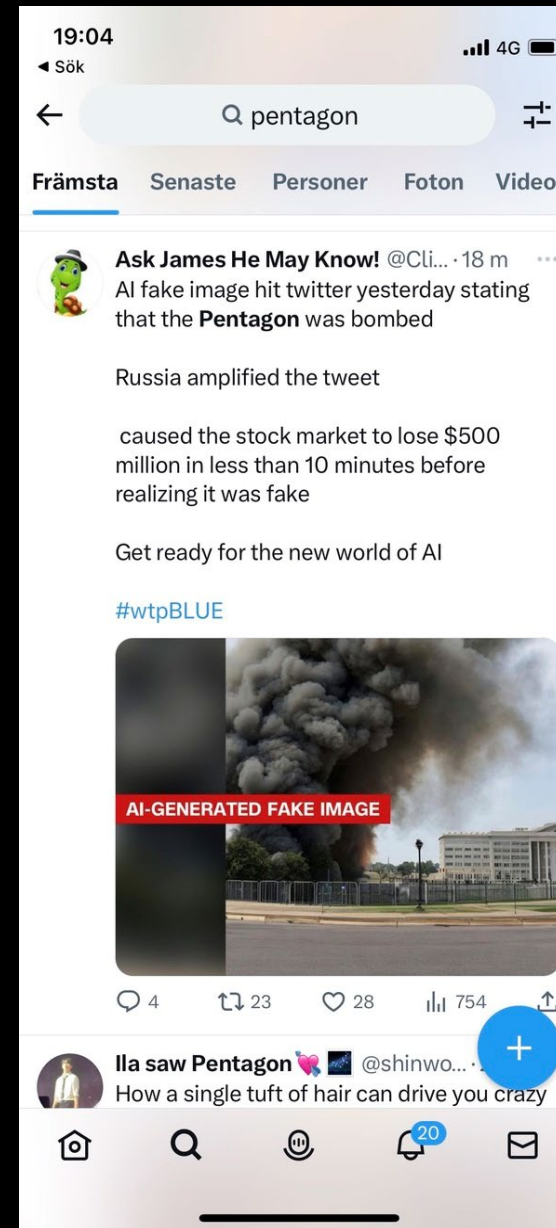
nature research
custom media



The energy-intensive process of making concrete accounts for an [estimated 8%](#) of anthropogenic carbon emissions. Amir Alavi, associate professor of civil and environmental engineering at the University of Pittsburgh, hopes to address the problem with evolutionary generative AI that creates designs for infrastructure, such as bridges that require less concrete.

Instead of traditional solid concrete blocks, Alavi asks AI to design a metamaterial concrete, a latticelike structure that contains voids but still provides adequate strength and flexibility. Armed with information about the desired characteristics of concrete, the AI produces structures that meet strength requirements but use less material. It selects the best choices from each design round and then evolves them by running the process again and again, until the final set of options offer more than 90% of the performance with 20% to 30% less material. "You can significantly cut carbon emissions by designing sustainable concrete

DEEP FAKE




AI AND THE FUTURE OF WORK, DATA OWNERSHIP, INTEGRITY, AND BUSINESS SECRETS (FROM NDAS TO NO CHATGPT)

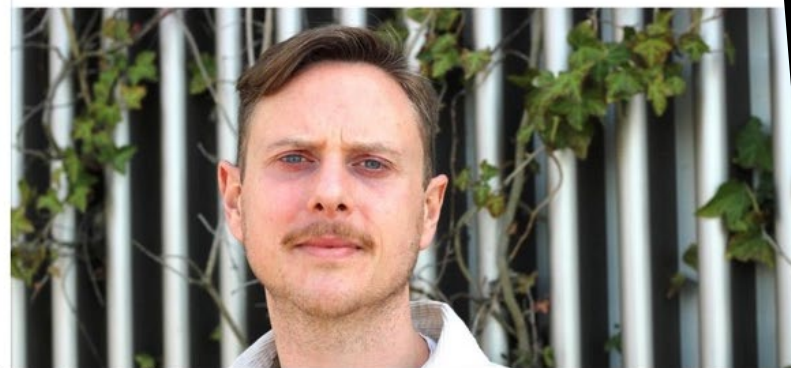
– Alla är överens om att AI i vården kommer Patientdatan i de nordiska länderna ses som otroligt värdefull resurs för att testa AI, nästan slags naturresurs. Då måste vi ha en levande diskussion om vilka delar av datan befolkningen villiga att dela med sig av.

Säger [Jason Tucker](#), WASP-HS forskare vid [Malmö universitet](#) till [Dagens Medicin Sverige](#).

[#ai](#) [#artificiellintelligens](#) [#healthcare](#) [#vård](#) [#risker](#) [#Alrisks](#) [#news](#) [#wasphs](#) [#norden](#) [#resurser](#) [#resourses](#) [#data](#) [#nyhet](#) [#news](#) [#medicin](#) [#medicine](#)

 **Dagens Medicin Sverige** + Följ
25 615 följare
2 v · 🌐

Hajpen kring AI i vården kan tillsammans med vaga nationella strategier och brist på offentlig handlingskraft riskera att leda till att det offentliga tappar kontroll över utvecklingen. Det menar [Jason Tucker](#), forskare vid [Malmö universitet](#).



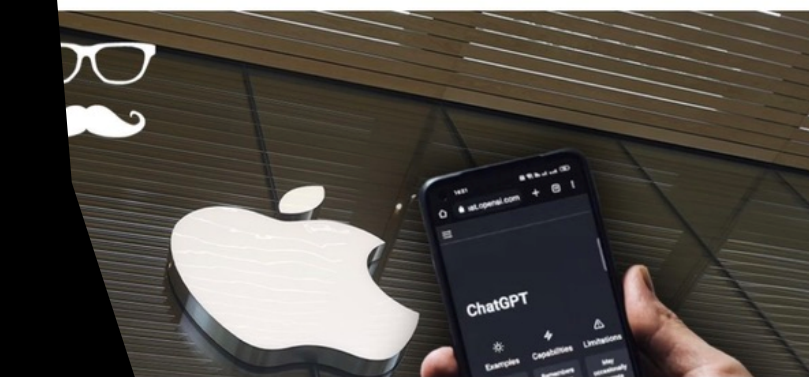
    
Startsida Ditt nätverk Lägg upp Aviseringar Jobb

similar technology and wants to prevent employees from sharing confidential information about their own products. Apple has also advised against using Microsoft-owned GitHub's Copilot, which automatically generates software code.

ChatGPT, created by OpenAI, gained immense popularity, amassing over 1 million users in just five days. It possesses human-like capabilities, such as answering questions, writing essays, and mimicking human behavior.

Apple's caution arises from the fact that when people use these AI models, data is sent back to the developer to improve them, which increases the risk of unintentionally sharing private or confidential information. OpenAI temporarily took ChatGPT offline in March due to a bug that allowed users to see another user's chat history. However, OpenAI has since introduced a feature that allows users to disable their chat history to prevent the AI model from being trained on that data.

[e översättning](#)



   
Ditt nätverk Lägg upp Aviseringar Jobb

AI & MÖJLIGHETER

- Analysera stora datamängder
- Göra dynamiska anpassningar
- Automatiseringar
- Generera innehåll
- Stärka befintlig kompetens
- Erbjuder nya tjänster
- Nya arbeten och arbetsdelning



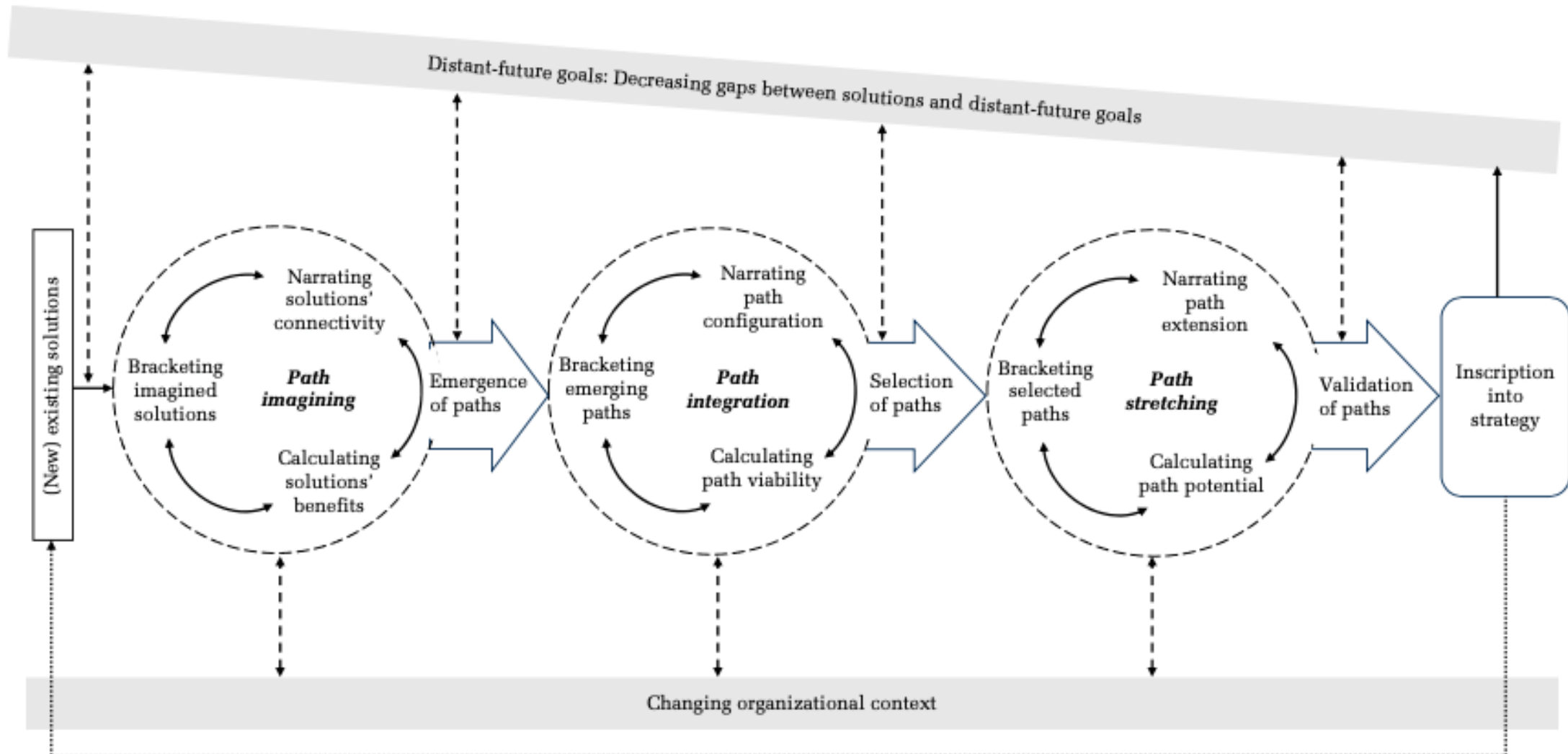
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- AI-fiering för att det är trend
- AI-fiering som minskar mänsklig kontakt
- AI som förleder – alternativ sanning
- AI och säkerhet
- AI och integritet



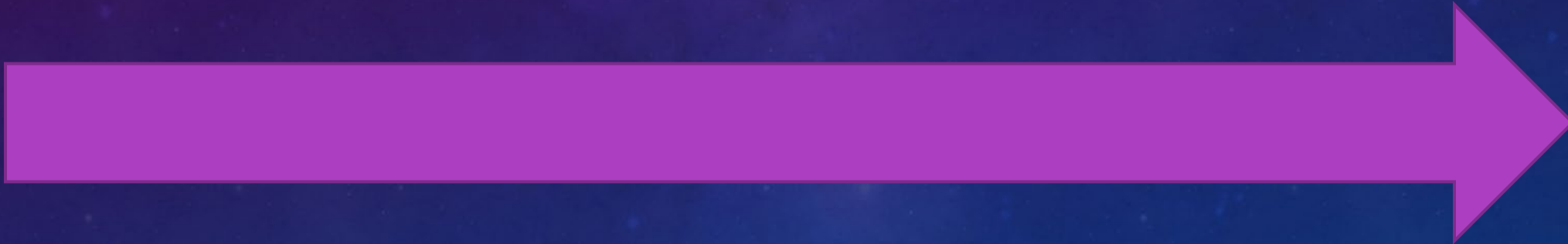
AI, FRAMTIDEN OCH STRATEGI FRAMÅT?

Process Model of Path Enactment toward Distant-Future Goals



SÄTT ATT SE PÅ AI FÖR LEDNING FRAMÅT

- AUTOMERA
- ACCLERERA
- MAXIMERA
- FILTRERA
- KOMPENSERA
- MODIFIERA
- (RE-)ORIENTERA
- ABSTRAHERA
- GENERERA
- FORMULERA
- VISIONERA
- AUGMENTERA



TACK!

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