



Beyond the Hype: Perspectives on the use of AI and LLM at the university

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NT

WHAT IS ARTIFICIAL INTELLIGENCE?

What is AI?

Artificial intelligence (AI) is the [intelligence](#) of machines or software, as opposed to the intelligence of human beings or animals.

Wikipedia

artificial intelligence (AI), the ability of a digital [computer](#) or computer-controlled [robot](#) to perform tasks commonly associated with intelligent beings.

Encyclopaedia Britannica

Q. What is artificial intelligence?

A. It is the science and engineering of making intelligent machines, especially intelligent computer programs. It is related to the similar task of using computers to understand human intelligence, but AI does not have to confine itself to methods that are biologically observable.

McCarthy, 2004

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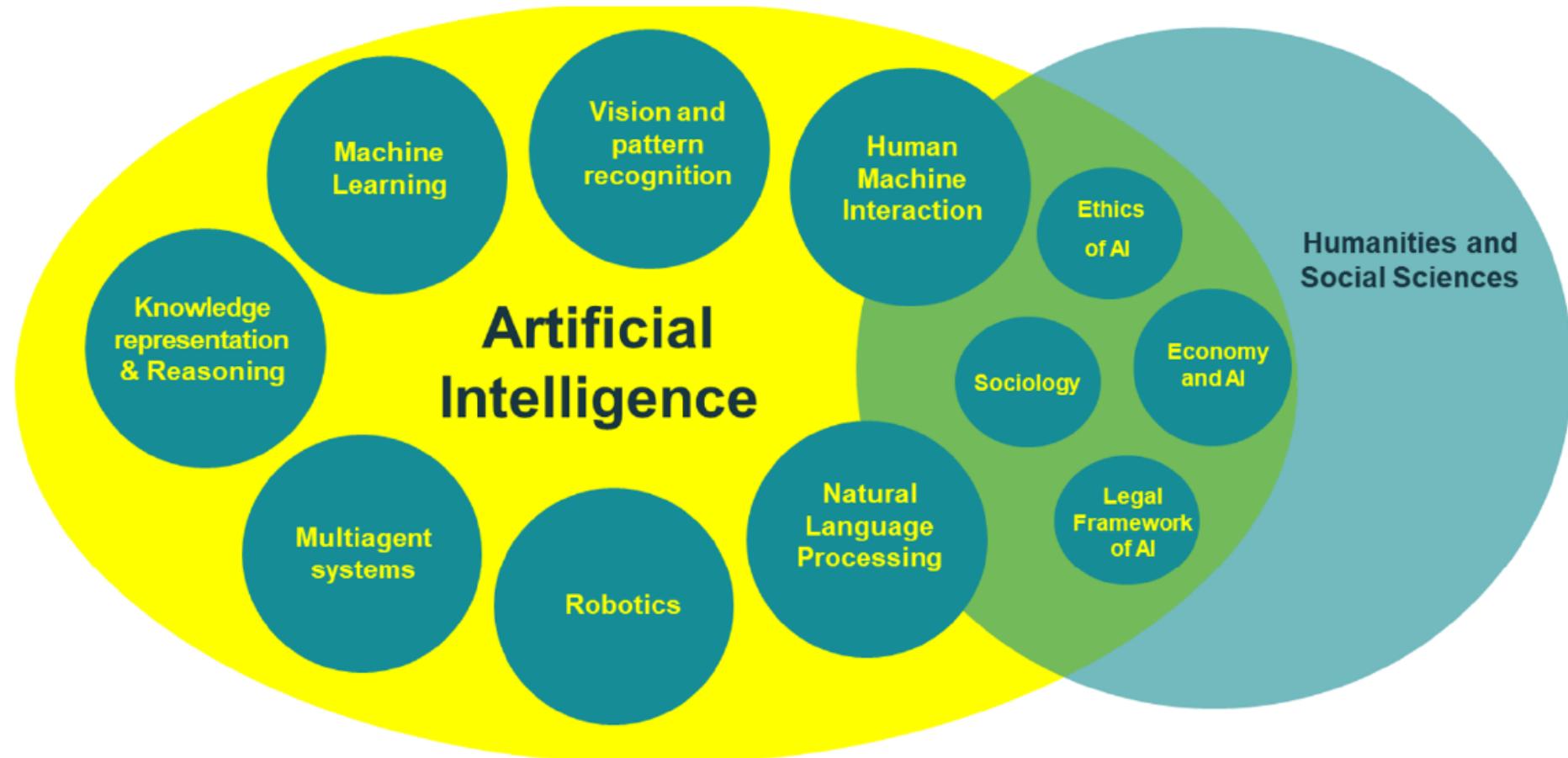
Encyclopaedia Britannica

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McCarthy, 2004

What is AI?



By BlueRadical, DevianArt



WHAT ARE (LARGE) LANGUAGE MODELS?

What are Language Models?

$S = \text{Where are we going}$



Previous words
(Context)

Word being
predicted

$$P(S) = P(\text{Where}) \times P(\text{are} \mid \text{Where}) \times P(\text{we} \mid \text{Where are}) \times P(\text{going} \mid \text{Where are we})$$

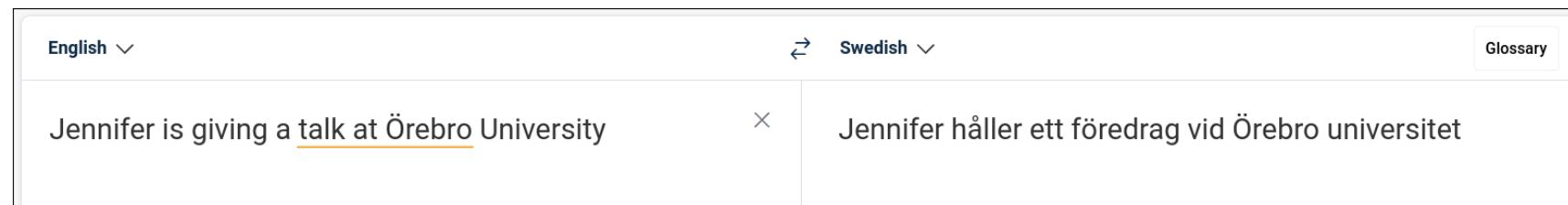
What are Language Models used for?



The screenshot shows the kagi AI interface. At the top is the kagi logo with a small cartoon character below it. The text "Oh my god, the volcano is" is entered into the search bar. Below the search bar is a list of five suggestions, each preceded by a magnifying glass icon:

- oh my god the volcano is here
- oh my god the volcano is coming
- oh my god the volcano is in
- oh my god the volcano is erupting
- oh my god the volcano is called

At the bottom of the interface are navigation links: Web, Academic, Forums, PDFs, Programming, and World News, along with a pen icon.



The screenshot shows a translation interface with English on the left and Swedish on the right. The English text "Jennifer is giving a talk at Örebro University" is being translated into Swedish. The Swedish translation is "Jennifer håller ett föredrag vid Örebro universitet". There is a "Glossary" button in the top right corner.

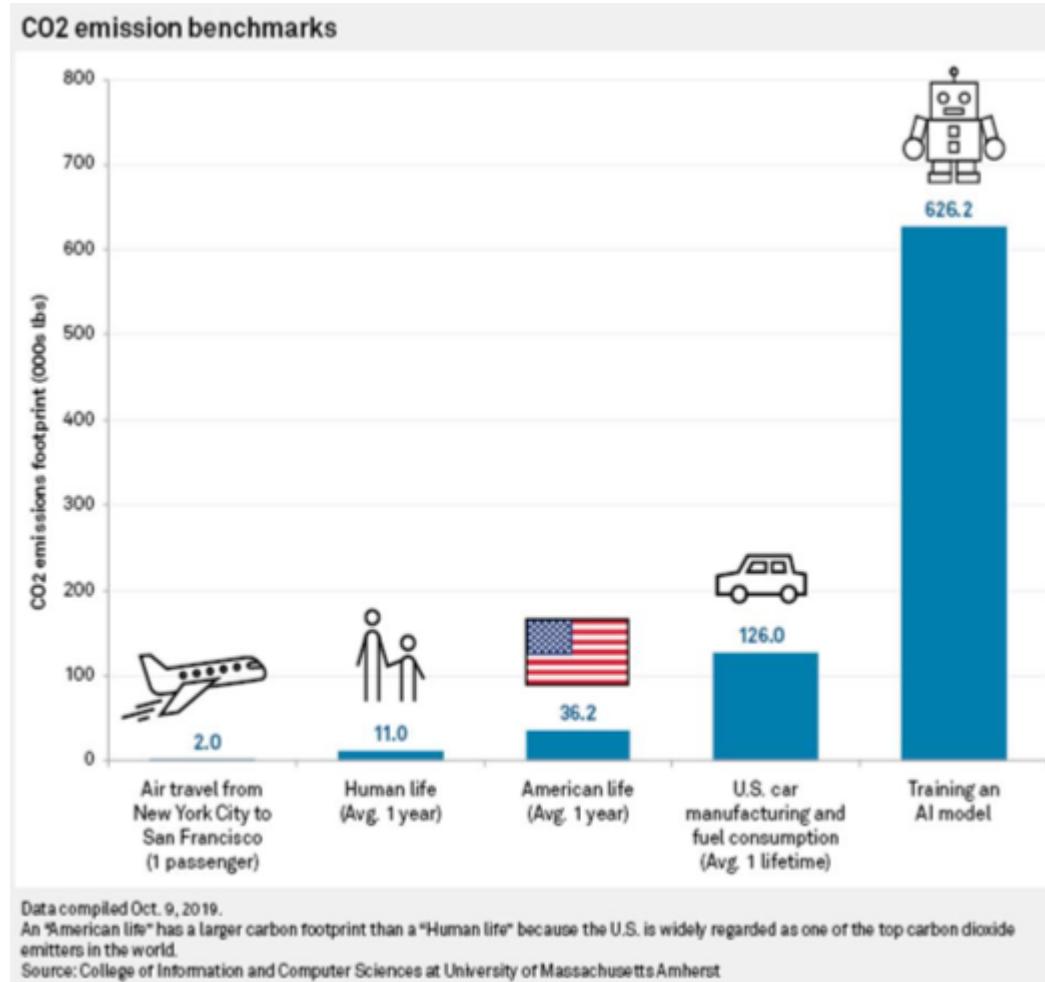
What are *Large Language Models*?

Language Models with millions of parameters and
trained on a large amount of data

(Some of) The Ethics behind LLMs



(Some of) The Ethics behind LLMs



- Training a model consumes 700 000 L of clean freshwater
- Using a model consumes $\frac{1}{2}$ L of water every 20 interactions

Li et al. 2023

(Some of) The Ethics behind LLMs

- Scrapping of data



(Some of) The Ethics behind LLMs

- Scrapping of data

MEDIA

'New York Times' considers legal action against OpenAI as copyright tensions swirl

August 16, 2023 · 5:53 PM ET

 Bobby Allyn

<https://www.npr.org/2023/08/16/1194202562/new-york-times-consider...>

OpenAI faces class-action lawsuit over how ChatGPT uses data — here's what we know

By Tony Polanco published June 29, 2023

This could be a huge blow to AI chatbots like ChatGPT

<https://www.tomsguide.com/news/openai-faces-class-action-lawsuit-over-how-chatgpt-uses-data-heres-what-we-know>



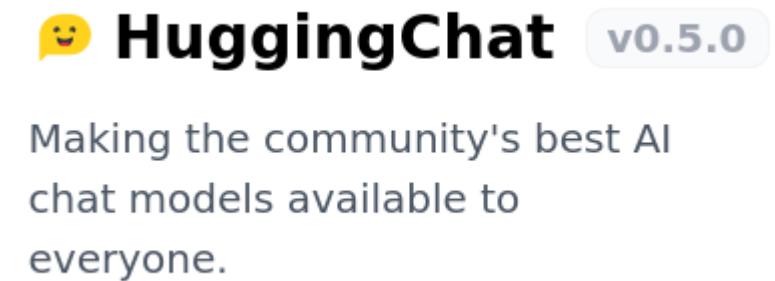
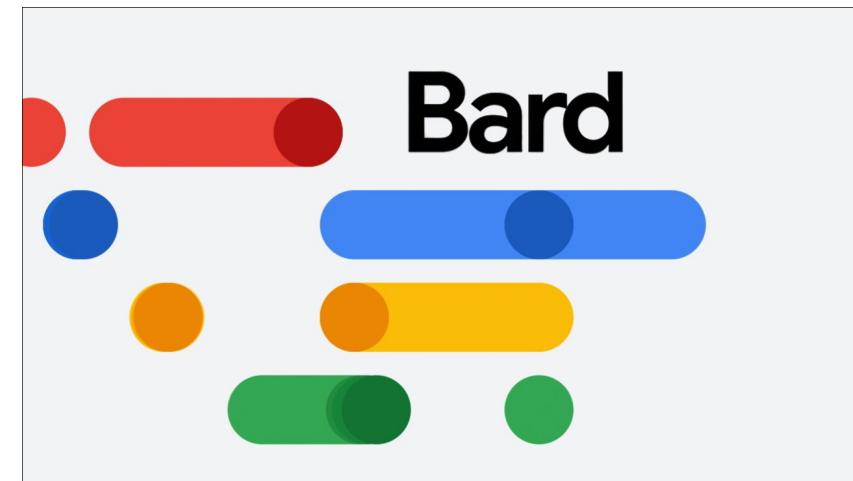
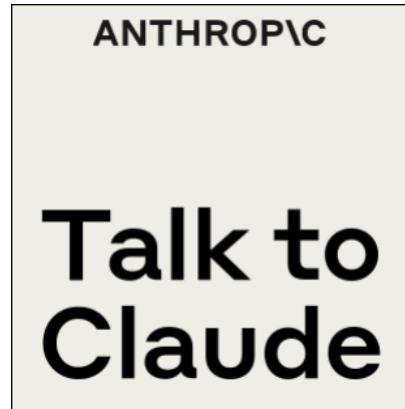
(Some of) The Ethics behind LLMs

- Monopoly

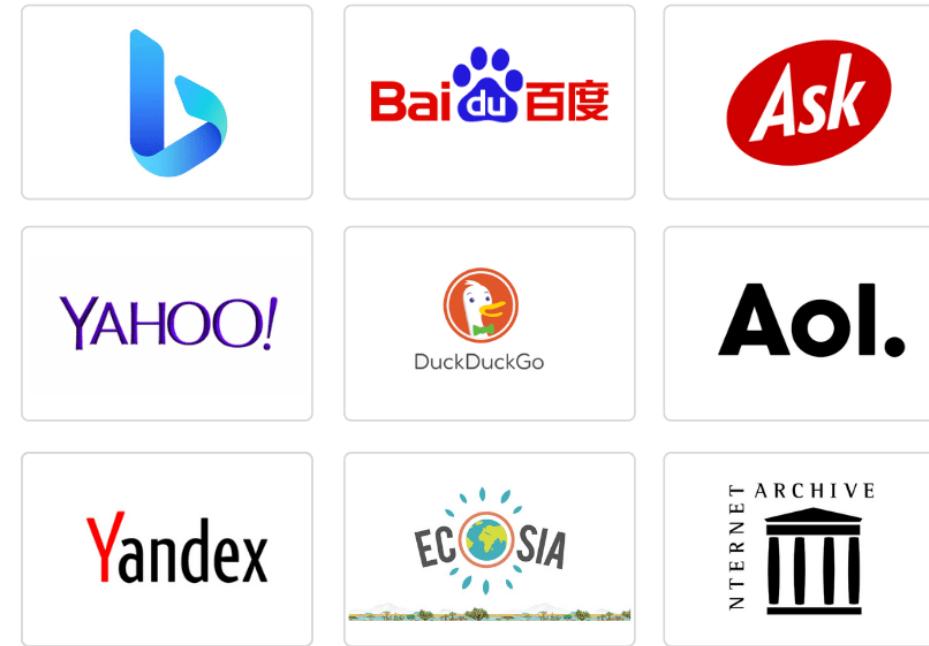


(Some of) The Ethics behind LLMs

- Monopoly



(Some of) The Ethics behind LLMs



(Some of) The Ethics behind LLMs

- Monopoly

Let me search for it (on the Internet)



Let me Google this

(Some of) The Ethics behind LLMs

- Monopoly

Let me ask an AI Chatbot



Let me ask ChatGPT

(Some of) The Ethics behind LLMs

How open-source LLMs are challenging OpenAI, Google, and Microsoft

By **Ben Dickson** - May 8, 2023

<https://bdtechtalks.com/2023/05/08/open-source-langs-moats/>

Open LLMs

These LLMs (Large Language Models) are all licensed for commercial use (e.g., Apache 2.0, MIT, OpenRLL-M). Contributions welcome!

Language Model	Release Date	Checkpoints	Paper/Blog	Params (B)	Context Length	Licence	
T5	2019/10	T5 & Flan-T5, Flan-T5-xxl (HF)	Exploring the Limits of Transfer Learning with a Unified Text-to-Text Transformer	0.06 - 11	512	Apache 2.0	T5
UL2	2022/10	UL2 & Flan-UL2, Flan-UL2 (HF)	UL2 20B: An Open Source Unified Language Learner	20	512, 2048	Apache 2.0	
Cerebras-GPT	2023/03	Cerebras-GPT	Cerebras-GPT: A Family of Open, Compute-efficient, Large Language Models (Paper)	0.111 - 13	2048	Apache 2.0	Ce GP

<https://github.com/eugenyan/open-langs>

(Some of) The Ethics behind LLMs

BUSINESS • TECHNOLOGY

Exclusive: OpenAI Used Kenyan Workers on Less Than \$2 Per Hour to Make ChatGPT Less Toxic

<https://time.com/6247678/openai-chatgpt-kenya-workers/>

(Some of) The Ethics behind LLMs

- Opacity of the training dataset
- Embedded biases
- Response of the company to critics and way of dealing with content
- “Jailbreaking”
- ...

LLM AT THE UNIVERSITY

LLM at the University

LLMs are going to change the way we work

But not in the way you think it will



The persistence of Memory, Salvador Dalí

Cheating tools

TECH

OpenAI announces GPT-4, claims it can beat 90% of humans on the SAT

PUBLISHED TUE, MAR 14 2023 1:42 PM EDT | UPDATED TUE, MAR 14 2023 2:32 PM EDT

ChatGPT passes exams from law and business schools



By [Samantha Murphy Kelly](#), CNN Business

Updated 1:35 PM EST, Thu January 26, 2023

Professors have a summer assignment: Prevent ChatGPT chaos in the fall

AI chatbots have triggered a panic among educators, who are flooding listservs, webinars and professional conferences to figure out how to deal with the technology



By [Pranshu Verma](#)

August 13, 2023 at 7:00 a.m. EDT

Cheating tools

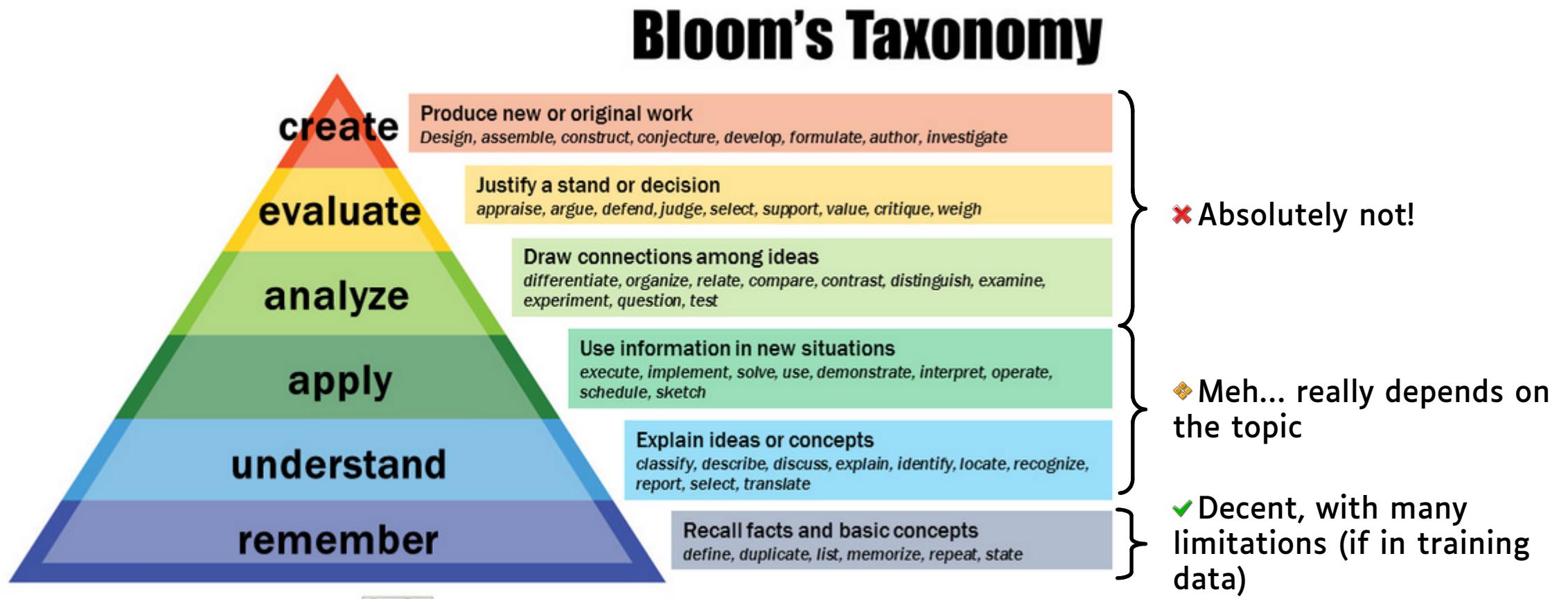
- LLMs are excellent at generating text that resemble things from their training data
 - LLMs is terrible at dealing with ambiguity, and math (beyond very simple examples)
 - LLM does not reason
- ✓ “What is the difference between X and Y”
- ✗ “Given the following usecase, what process would you implement to optimize Z. Justify.”

LLMs and examination

LLMs will radically change the way we evaluate students

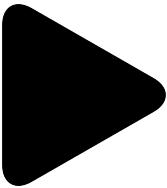
And maybe it's a good thing

Where are LLMs in the Bloom's Taxonomy



Information retrieval

Information retrieval



what are all the schools from Örebro University?

Web search ▶

Here are some of the schools that make up Örebro University:

- School of Humanities, Education and Social Sciences
- School of Science and Technology
- School of Health and Medical Sciences
- School of Business
- School of Law, Psychology and Social Work
- School of Nursing
- School of Music, Theatre and Art
- School of Informatics
- School of Hospitality, Culinary Arts and Meal Science
- School of Sports Science
- School of Environment, Energy and Building Technology
- School of Mathematical Sciences

Search web ⓘ Economics

Ask anything

Model: OpenAssistant/oasst-sft-6-llama-30b · Generated content may be inaccurate or false.

Share this conversation

Attempt #1

Information retrieval

what are all the schools from Örebro University?



Web search ▶

Here is a list of schools at Örebro University:

- School of Business
- School of Humanities, Education and Social Sciences
- School of Science and Technology
- School of Health and Medical Sciences
- School of Law, Psychology and Social Work
- School of Hospitality, Culinary Arts and Meal Science

Attempt #2

Please note that this list may not include all current schools at Örebro University as my knowledge cutoff date is September 2021.

Information retrieval

what are all the schools from Örebro University?

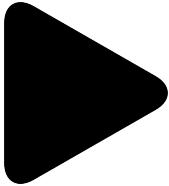
Web search ▶

I apologize for any confusion earlier. Here is some additional information on the merger involving Swedish universities including Örebro University:

The merger involves seven Swedish state universities - Uppsala University, Stockholm University, KTH Royal Institute of Technology, Södertälje Higher Education, Dalarna University, Gävle University and Jönköping University - as well as private institutions such as Karolinska Institutet, KTH Royal Institute of Technology, Chalmers University of Technology, Linnaeus University, Luleå University of Technology, Mid Sweden University, Mälardalen University, Norwegian School of Veterinary Science, Oslo Metropolitan University, Norwegian University of Life Sciences, Norwegian University of Science and Technology, Norwegian Business School, Norwegian Police University College, Norwegian School of Economics, Norwegian School of Fisheries and Aquaculture Innovation, Norwegian School of Information Technology, Norwegian School of Management BI, Norwegian School of Sport Sciences, Norwegian University of Agriculture and Life Sciences, Norwegian University of Art and Design, Norwegian University of Teacher Education, Norwegian University of Technology and Science, Norwegian University of Tromsø, Norwegian University of Veterinary Science, Norwegian University of Ålesund, Norwegian

Attempt #3

LLMs and information retrieval



What are the three most influential papers of the Industrial Marketing Management journal?

Web search ▶

Industrial Marketing Management (IMM) is a leading academic journal in the field of business-to-business marketing and has published many influential papers over the years. Here are three highly cited and influential papers from IMM that have made significant contributions to the field:

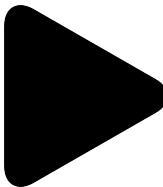
1. "The Role of Relationship Marketing in the Business-to-Business Market" by Berry, L.L., & Parasuraman, A. (1991). This paper introduced the concept of relationship marketing and its importance in B2B markets. The authors argued that building long-term relationships with customers is critical for success in B2B markets, where purchasing decisions are often complex and involve multiple stakeholders. They proposed a framework for relationship marketing that includes elements such as customer satisfaction, trust, commitment, and communication. This paper has been widely cited and has had a significant impact on the development of relationship marketing theory and practice.
2. "Market Segmentation: A Review and Reevaluation" by Wind, Y., & Frank, S.M. (1983). This paper provides a comprehensive review of market segmentation theory and offers a new perspective on how to segment industrial markets. The authors argue that traditional

Search web ⓘ If segmentation based on demographic and firmographic characteristics are important and that segments should be defined based on the underlying needs and

Ask anything



Reasoning and problem solving



• Sure! $110 + 49 = 159$.

explain the steps you use to reach that result

• Certainly! Here's how I calculated $110 + 49$:

1. First, I started with the ones place (the rightmost digit). In this case, 110 has a ones place of 0, and 49 has a ones place of 9. So, I added $0 + 9 = 9$.
2. Next, I moved one digit to the left and added the tens place (the next digit to the left) of each number. 110 has a tens place of 1, and 49 has a tens place of 4. So, I added $1 + 4 = 5$.
3. Then, I moved one digit to the left again and added the hundreds place (the next digit to the left) of each number. 110 has a hundreds place of 1, and 49 has a hundreds place of 0. So, I added $1 + 0 = 1$.
4. Finally, I added up all the digits I had calculated so far: $9 + 5 + 1 = 15$.



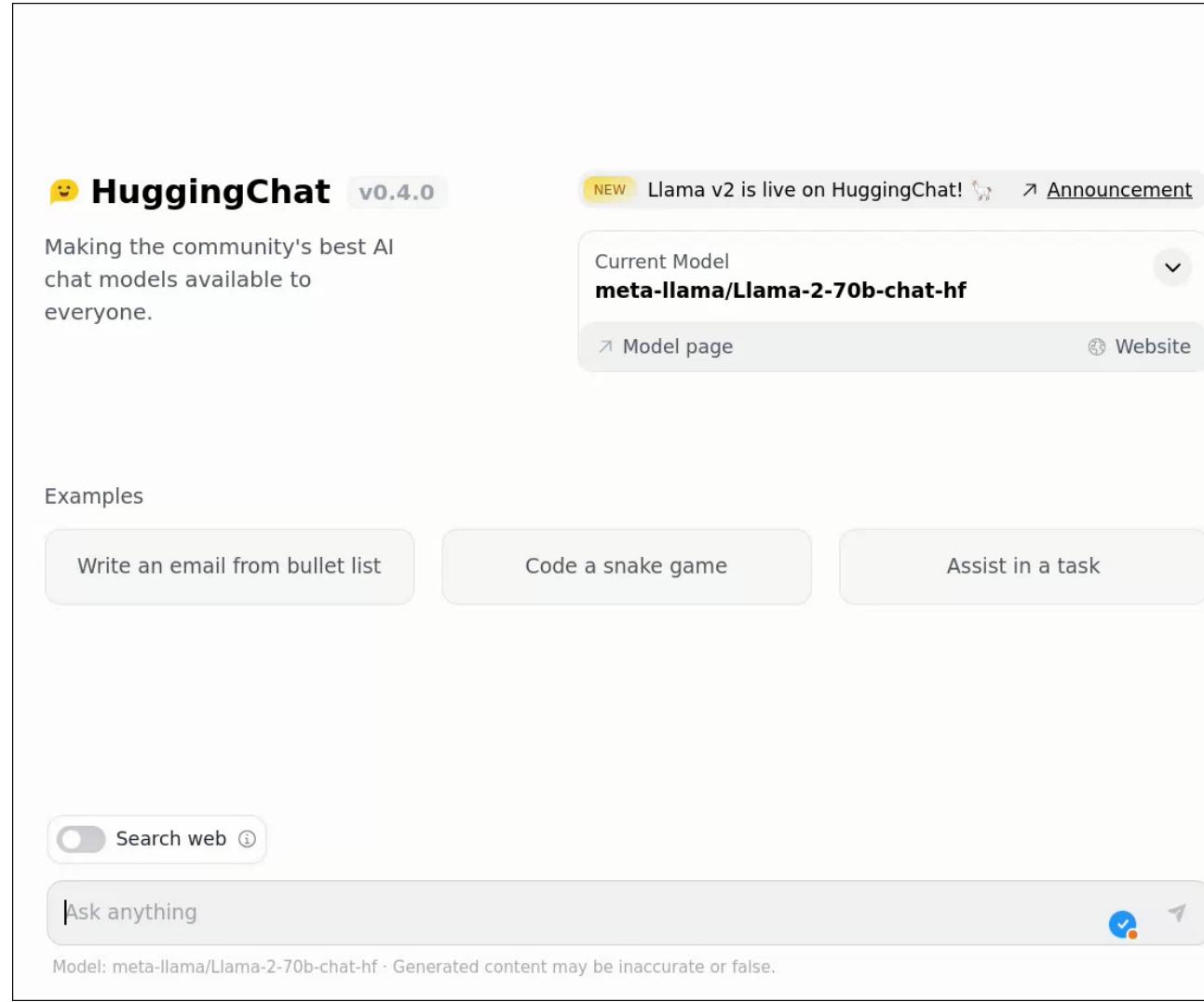
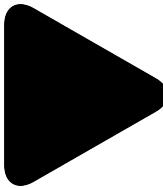
Search web (i)

$110 + 49 = 159$.

Ask anything



Reasoning and problem solving



The screenshot shows the HuggingChat AI interface. At the top left is the HuggingChat logo (a yellow smiley face) and text "HuggingChat v0.4.0". To the right is a "NEW" badge, the text "Llama v2 is live on HuggingChat! 🎉", and a link "Announcement". Below this is a dropdown menu labeled "Current Model" set to "meta-llama/Llama-2-70b-chat-hf", with "Model page" and "Website" links underneath. In the center, there's a section titled "Examples" with three buttons: "Write an email from bullet list", "Code a snake game", and "Assist in a task". At the bottom left is a "Search web" toggle switch. The bottom right features a large input field with the placeholder "Ask anything" and a blue checkmark icon. A small note at the very bottom says "Model: meta-llama/Llama-2-70b-chat-hf · Generated content may be inaccurate or false."

Common sense

What is the third letter of the word ohvnb?

- The word "ohvnb" contains only four letters: o, h, v, and n. Therefore, there is no third letter in the word "ohvnb."

In the following sentence : "The ball does not fit in the suitcase because it is too small", which object is smaller?

- The ball is smaller than the suitcase.

The assistant refused to date the lawyer because she was married. In the previous sentence, who does "she" refer to?

- I apologize for any confusion caused by my response earlier. To clarify, "she" refers to the woman who works at the law firm where the assistant interned. She is not the same person as the lawyer that the assistant worked with on the case involving the man who died after falling off his roof while cleaning gutters.

LLMs in the wild

Supermarket AI meal planner app suggests recipe that would create chlorine gas

Pak 'n' Save's Savey Meal-bot cheerfully created unappealing recipes when customers experimented with non-grocery household items



An app launched by a New Zealand supermarket that produces AI-generated recipes for leftovers has recommended cooks try 'bleach-infused rice surprise' among other things. Photograph: Jacobs Stock Photography Ltd/Getty Images

← Thread

You reposted



end-of-life cur
@heyMAKWA

Follow

i'm not going to link any of them here, for a variety of reasons, but please be aware of what is probably the deadliest AI scam i've ever heard of:

plant and fungi foraging guide books. the authors are invented, their credentials are invented, and their species IDs will kill you

22:43 · 17 Aug 23 · 82.7K Views

New York lawyers sanctioned for using fake ChatGPT cases in legal brief

By Sara Merken

June 26, 2023 10:28 AM GMT+2 · Updated 2 months ago

LLM as a brainstorming tool

- Using an LLM as a participant to brainstorming or to help answering complex questions
- Plethora of articles online about how to boost your creativity or harness the power of AI to find the perfect new project idea
- Some interesting stuff can come out of it, though very "generic".

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LLMs do not think out-of-the-box

They **are** the box

Beware the Automation Bias

Favor suggestions from automated decision-making systems, and ignore contradictory information made without automation

Examples

- Clinical Decision Support systems that doctors follow despite a bug in the system contradicting doctor's knowledge
- Airplane pilots following auto-pilot instructions despite contradicting their knowledge



Beware the Automation Bias

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](#)

<https://dl.acm.org/doi/10.1145/3544548.3581196>

IN CONCLUSION...

In Summary, LLMs...

- Will change the way we work, but not in the way you may think...
 - Time cost (verifying the output, comparing new ideas to them, re-evaluating our teaching)
 - Pollution of our information system (when has this book been published?)
- Are excellent at generating plausible text
- Have no concept of "right" or "wrong"
- Have no concept of "I don't know"
- Can fail in spectacular or subtle way, and are un-predictable. The subtle failures are more dangerous.

So these tools are useless?

- NO!
- LLMs are good for applications that requires you to be statistically similar to a native English speaker
 - Recommendation letters
 - Talk or article titles (if originality is not what you are looking for)
 - Correcting grammar or spelling
- With supervision and careful verification
- And while being aware of the ethical challenges behind

To use or not to use?

1

How much do you trust it?

Are you confident that in this specific application, the output can be trusted or will you need to double-check yourself?

2

Are you OK with sending information to someone else's computer?

"The Cloud" is just someone else's computer. Is your information sensitive? Private?

3

Does your application requires predictability?

Is it ok if with the same input you get different answers?

Resources



A.I. is B.S.

Adam Conover

1 M de vues • il y a 4 mois

https://www.youtube.com/watch?v=ro130m-f_yk



Artificial Intelligence: Last Week Tonight with John...

LastWeekTonight ✓

0,7 M de vues • il y a 5 mois

<https://www.youtube.com/watch?v=Sqa8Zo2XWc4>

Resources

On the Dangers of Stochastic Parrots: Can Language Models Be Too Big?

Emily M. Bender*

ebender@uw.edu

University of Washington
Seattle, WA, USA

Angelina McMillan-Major
aymm@uw.edu
University of Washington
Seattle, WA, USA

Timnit Gebru*

timnit@blackinai.org
Black in AI
Palo Alto, CA, USA

Shmargaret Shmitchell
shmargaret.shmitchell@gmail.com
The Aether

<https://dl.acm.org/doi/pdf/10.1145/3442188.3445922>



Home News and Events Full Publication List Resources on Ethics of AI

Resources on Ethics of AI

<https://jrenoux.github.io/resources-ai-ethics/>

What Is ChatGPT Doing ... and Why Does It Work?

February 14, 2023

<https://writings.stephenwolfram.com/2023/02/what-is-chatgpt-doing-and-why-does-it-work/>

ChatGPT Explained: A Normie's Guide To How It Works

Once you understand a few core concepts, modern chatbots are less mysterious.



JON STOKES
MAR 1, 2023

<https://www.jonstokes.com/p/chatgpt-explained-a-guide-for-normies>

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