

Institute of Artificial Intelligence



Leibniz  
Universität  
Hannover

# ChatGPT and Academia



**Notice:** Some information in this presentation is only speculative

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# What is ChatGPT?

**A chatbot system** developed by OpenAI

Still in test phase, collecting usage data

**Open-topic dialogues** with human users

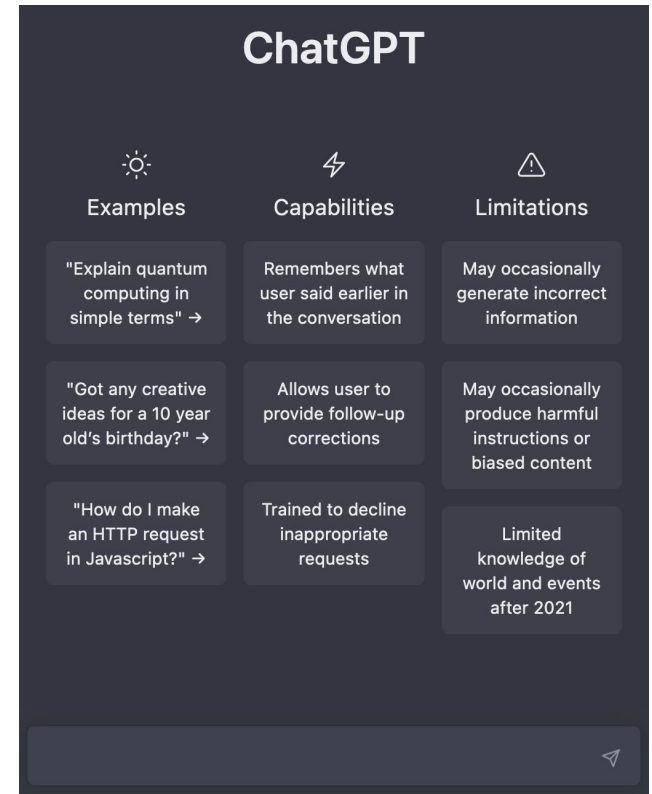
Multiple languages, no restrictions

**User writes** natural language text

From short questions to long discussions

**ChatGPT answers** mostly with free text



Answers are *generated*, not retrieved







# Example dialogue with ChatGPT

H Can you explain to me what is meant by "putting your cards on the table"?

G "Putting your cards on the table" is a phrase that means to be completely honest and open about your thoughts, feelings, and intentions, especially in a negotiation or conflict situation. It means to reveal all of the information that you have, including the things that may work against you, and to be transparent about your position. Essentially, it is a way of saying that you are being upfront and straightforward.  

H Oh, can you say that even simpler, such that a 5-year old can understand it?

G Sure! "Putting your cards on the table" means being very honest and telling everything you know, like laying all your cards face up so others can see what you have. It means being truthful and not hiding anything.  

Und was würde man im Deutschen an ähnlicher Stelle sagen?





# How to use ChatGPT?

**Available online** at <https://chat.openai.com>

Login via OpenAI, Google, or Microsoft account

**Free to use** under given terms and conditions

Payed pro version has prioritized access

**Sometimes not available** due to high usage

Often works again a few minutes later

OpenAI logo

Welcome back

Email address

Continue

Don't have an account? [Sign up](#)

OR

Continue with Microsoft Account

Continue with Google



# How does ChatGPT work?

**A language model** is the basis of ChatGPT

Stepwise predicts next words in sequences

**Has learned probabilities** of word sequences

Trained on instructions to learn how to answer

**Dialogue used as context** to generate answers

Neither copies text, nor searches for information

**User:** Can you explain to me what is meant by "putting your cards on the table"?

**ChatGPT:** "Putting your cards on the table" is a **<?>**

$P(\text{phrase} \mid \text{dialogue})$   
= 0.20

$P(\text{saying} \mid \text{dialogue})$   
= 0.10

$P(\text{typical} \mid \text{dialogue})$   
= 0.05

...





# What can ChatGPT be used for?\*

(\*considering the limitations on the next slides)

**Explain concepts**, behaviors, or phenomena

**Summarize discussions** given as input

**Write essays**, poems, or similar on any topic

**Assess the quality** of a given text

**Change the style** of a given text

**Correct a text** based on given suggestions

**Solve exercises** from maths or similar

**Create program code** for small tasks

**Answers questions** on facts and knowledge

The first screenshot shows a user prompt: "Please write a short essay on why one should study at Leibniz University Hannover." The AI response describes Leibniz University Hannover as a highly esteemed institution of higher education located in the city of Hannover, Germany, offering a wide range of disciplines and programs.

The second screenshot shows a user prompt: "How would you grade your essay in German school grades?" The AI response states that as an AI language model, it doesn't have personal opinions or the ability to experience emotions. However, based on the quality of writing and information presented in the essay, one could grade it as a "2" or "gut" on a German school scale.

The third screenshot shows a user prompt: "How many students does Leibniz University Hannover have?" The AI response states that its training data only goes up until 2021, but as of that year, Leibniz University Hannover had around 27,000 students. It also notes that it's possible that this number has changed since then and it would not know.



# What can ChatGPT *not* do (currently)?

**Introduce information later than 2021** in its texts

**Relate different sources** with each other

**Make temporal connections** between texts

**Search information** on the web

**Give reliable sources** for its output

**Know what it knows** and how well

**Reason logically** about information

**Use non-textual information** for any answer

**Various other tasks** that do not fit to what it does

**Notice:** If you give ChatGPT certain input, it is able to use it

**Notice:** ChatGPT may still mimic some of these tasks very well!

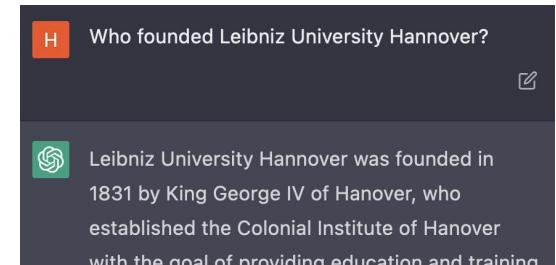


## Selected risks and chances for academia

**"Facts"** may be wrong while sounding true

**Text** may be biased against social groups

**No source exists**, as text is generated



**Thesis & seminar texts** may be generated at okayish quality

**Home exercises** of various kind can be solved directly

**Plagiarism and wrong facts** may spread barely noticeably

**Writing education** may take place on a more advanced level

**Self-assessment** based on ChatGPT can help learning

**Much more efficient writing** may increase productivity





## Some recommendations

**Question answering** is *not* the main strength of ChatGPT

What information you give it is key to its power

**Facts and reasoning** are also *not* aimed for

But ChatGPT may imitate them convincingly

**Notice:** ChatGPT  
is all but perfect,  
but better systems  
may come soon!

**Don't underestimate ChatGPT**, if it fails on something

How input is phrased affects what answer you get

**Embrace that ChatGPT is there**, learn to use it constructively

Think about what you can teach/do better now