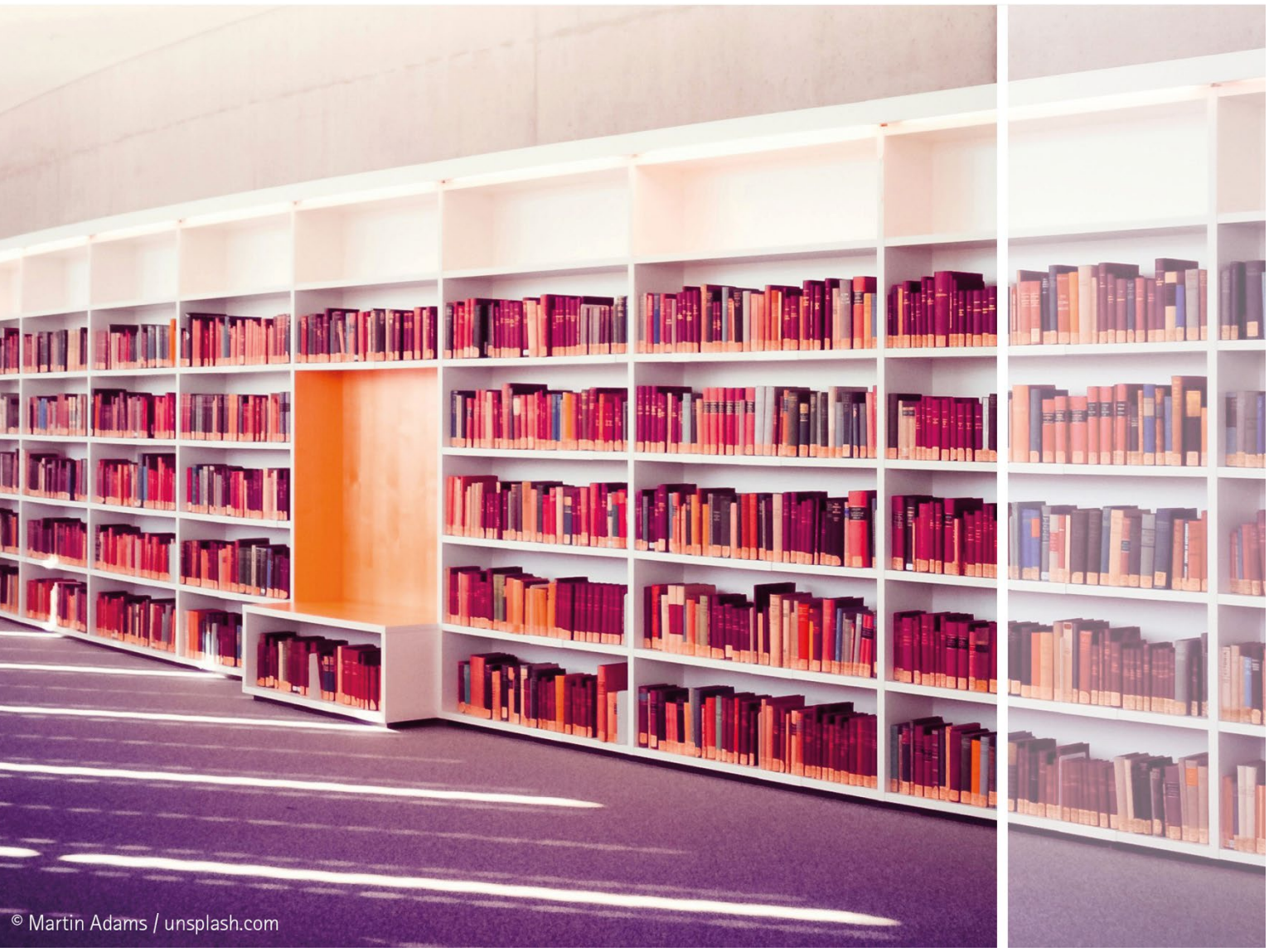
Leibniz Universität Hannover

Text-generating AI

Legal aspects of its use at LUH



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Text-generating AI –
Legal aspects of its use at LUH

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Legal questions arise when using AI-assisted tools based on language models. Such tools can generate, translate or edit images, graphics or texts, among other things.

In academic practice as well as in studies, the use of AI language models represents both an incentive and a challenge for a sensible, didactically justified and legally secure approach. In order to test and reflect on the use of text-generating AI tools in teaching and in the context of studies or assessments at Leibniz University Hannover, suggestions and information regarding legal aspects have been compiled here. The questions asked and short answers given are neither all-encompassing nor legally binding. Frequently, the answers refer to sources that deal with the question in more detail. In specific individual cases, a legal examination is advisable.

Question overview:

1 Introduction: What is the handout about?

1.1 How is AI defined and why is it mainly about language models?

Large Language Models are a form of artificial intelligence that can mimic human intelligence in the form of language production. They use statistical models to analyse large amounts of data and recognise patterns and connections between words and sentences.

Language models such as ChatGPT are trained with large amounts of text and are able to interact with questioners, answer questions and write longer texts.

The EU Commission (2018, p. 1) defined artificial intelligence as follows:

> *"Artificial intelligence (AI) refers to systems with "intelligent" behaviour that analyse their environment and act with a certain degree of autonomy to achieve specific goals."*

For practical reasons, this handout is limited to AI in so-called language models that can generate texts. This is because, according to the EU Commission (ibid. p. 1), "AI-based systems [...] can be purely software-based working in a virtual environment (e.g. voice assistants, image analysis software, search engines, speech and facial recognition systems), but also embedded in hardware systems (e.g. modern robots, autonomous cars, drones or applications of the "Internet of Things"). We use AI every day, for example, to translate texts, generate subtitles in videos or block unwanted emails."

1.2 How should teachers deal with AI applications vis-à-vis students?

- It is to be expected that text-generating AI applications will play an increasingly important role in academic research / academic papers in the near future; therefore, tools relevant to the subject and the task at hand should also be presented and practised in the course of studies.
- Introduce them to the rules of good scientific practice.
- Students should use the current version of the Institute's declaration of originality (Salden, Peter, 2023, p. 32 f.).
- Particularly when supervising academic research / academic papers, it is important to make it clear to students at the beginning of the work in what form and how detailed the use of tools should be documented and whether there are whitelists of applications that do not need to be documented separately (e.g. MS Office up to version X).

What should be considered when using text-generating AI applications?

- Anyone who registers is clearly identifiable by their email address. This personal data should therefore only be provided if this is done explicitly consciously and voluntarily.
- Neither personal data nor content subject to secrecy should be entered.

1.3 Is a language model suitable as a research tool?

Language models are not knowledge databases and do not function like search engines, i.e. they do not search for possible sources on the internet using keywords or entire questions. Rather, the AI derives meaning connections between words from the text material, resulting in grammatically (morphologically, syntactically and semantically) correct speech output and giving the impression that human communication is taking place.

Using ChatGPT as an example, some of the current limitations that need to be considered when using language models for academic research / academic papers will be highlighted here:

- Knowledge status: the training data of the model ends at the moment in January 2022, so that no current information can be researched. This aspect of time-limited training data is also relevant for other LLMs. Exceptions are systems that also have access to the internet and can include search results from there in their answers, such as Microsoft Bing.
- Source citations: The chatbot's answers often contain no, incorrect or non-existent source information. Stated sources should be checked, even if they seem plausible (stated doi, real existing journal titles, etc.).
- Hallucinations: The AI does not work factually, but compiles answers according to probabilities. Since it does not reproduce knowledge, it cannot answer that it does not know something. A real understanding of contexts cannot be assumed. Instead, texts are generated by recombining data she has learned during training. These factually often wrong answers are called hallucination.

It is therefore important that any information provided by language models is carefully verified and supported by reliable sources before being used in academic research / academic papers. Language models can imitate human communication, but they cannot replace expertise (Rouse 2023, Wikipedia 2023).

1.4 What rights does the use of AI affect?

1.4.1 European law

The General Data Protection Regulation (GDPR) and the Artificial Intelligence Act (AI Act) are already in force.

Concerns mainly data protection issues, e.g.: Does the use of AI, in particular the "injection" of personal data, pose a risk of violating data protection law?

1.4.2 Rights with constitutional status: personal rights and freedom of science.

Concerns primarily the violation of fundamental rights, e.g. the following question: Could the freedom of science, research and teaching be inadmissibly restricted by limiting or prohibiting the use of AI-generated texts?

1.4.3 Copyright law

Concerns e.g. the following question: Could copyrights be infringed by the use of AI-generated texts or is there a possibility of (unintentional) plagiarism when using them?

1.4.4 LUH examination regulations and LUH regulations for ensuring good scientific practice

Concerns e.g. the following questions: Does the unmarked adoption of AI-generated texts violate the rules of good scientific practice? Which requirements should be regulated in the examination regulations?

2 Legal aspects of using AI in teaching

After the brief overview, the following sections take up the legal areas mentioned and elaborate on them a little more.

2.1 European Law & GDPR

2.1.1 What are the fault lines with the General Data Protection Regulation (GDPR)?

Or put another way: How do service providers such as OpenAI deal with the data entered? And to what extent does the data processing comply with the regulations of the GDPR?

From a data protection point of view, there are still a number of unanswered questions regarding the use of text-generating AI. Due to the lack of transparency regarding data processing for purposes that are not precisely defined by service providers such as OpenAI, state data protection commissioners have initiated a comprehensive review procedure against this provider and asked for answers to the questions (https://www.datenschutzzentrum.de/uploads/chatgpt/20230419_Request-OpenAI_ULD-Schleswig-Holstein_IZG.pdf). As long as this investigation is still ongoing and the questions have not been answered, it is difficult to make a conclusive assessment.

2.2 Personal rights and academic freedom

2.2.1 Why is use voluntary for students?

Ultimately, every person who uses such a service (especially the free version) must be aware that all data provided to the service provider can be used for their own business purposes. This may also concern the (personal) login data.

If the services have to be used (compulsorily) in the context of lectures/courses/sessions, registration with real personal data would have to be viewed critically. It is irrelevant whether the contact data is official or private.

2.2.2 What should be considered with regard to confidentiality clauses and company secrets?

Even within academic freedom, there are limits if, in the context of cooperation with companies or third institutions, confidentiality of research data and/or findings has been agreed. Such secrecy clauses run counter to the entry of corresponding information as a prompt.

2.3 Copyright Law

2.3.1 Who is the author when texts are generated with an AI tool?

- Texts from ChatGPT are newly generated and in the public domain (Salden & Leschke, 2023, p. 26).
- The copyright for generated texts can lie with those who generate the prompt - provided there is a sufficiently high level of creative design (Salden & Leschke, 2023, p. 25 f.).
- It should be noted, however, that texts may be unintentionally plagiarised in the process if ChatGPT reproduces text sequences from the underlying sources 1:1, which can happen especially with very specific word sequences. This also applies to copyrighted texts, which was the subject of a Spiegel column (Stöcker, 2023).

2.3.2 Who holds the copyright to data entered or generated?

- Copyright is linked to the creative work of human beings. Therefore, users retain the copyright to the prompts they enter. This does not affect the difficulties that arise from the lack of transparency of many language models for the further use of prompts as training data.

- Users should check whether entered data such as prompts or texts may be used by AI providers for their own purposes.

2.3.3 How should AI-generated texts be cited or labelled?

- "The extent to which texts generated through the use of an AI tool must be appropriately marked in an academic context depends on whether an attempt to deceive the examination candidate or academic misconduct is otherwise to be affirmed. At this point, the examination regulations, statutes or other framework regulations of the higher education institutions must be observed." (Salden & Leschke, 2023, p. 29)
- "The licence or terms of use of the respective software can also be relevant at this point. If these stipulate that reference must be made to the use of AI-generated texts, users are compulsory to comply with the conditions." (Salden & Leschke, 2023, p. 29)
- "How such labelling must take place regularly depends on the individual case. In this context, it is crucial that third parties are able to recognise which parts of the text were generated by an AI and to what extent. If the texts were taken over word for word, it is recommended to treat the passage similarly to a "classic" quotation. If, on the other hand, the AI programme was used as a source of inspiration or thought-provoking impulse, an auxiliary citation at the beginning or end could suffice." (Salden & Leschke, 2023, p. 29)

2.3.4 Do concepts such as plagiarism and ghostwriting apply when content is generated with AI applications?

Can texts generated with the help of content-generating AI applications be plagiarised?

The spheres of copyright, good scientific practice and examination regulations are not congruent (Salden & Leschke, 2023, p. 34). Plagiarism is difficult to define in legal terms, let alone identify with certainty.

The term ghostwriting is equally difficult to define, since at least the prompts themselves are generated (Salden & Leschke, 2023, p. 35).

2.4 Examination regulations & good scientific practice

2.4.1 What is the connection between text-generating AI tools and scientific misconduct?

How should the suspicion that a text originates from a language model and corresponds to scientific misconduct in its presentation be dealt with? Texts generated by language models cannot be reliably identified as plagiarism.

- "Within the framework of the usual rules of good scientific practice, an offence is regularly defined as follows: "Scientific misconduct occurs when false statements are made deliberately or through gross negligence in a context relevant to science, the intellectual property of others is infringed or their research activities are otherwise impaired." (HRK)" (Salden & Leschke, 2023, p. 31).
    - Here the authors refer to the "Recommendation on Dealing with Scientific Misconduct in Higher Education Institutions" ("HRK Recommendation" 1998, p. 3) as well as the "Code of Procedure on Suspicion of Scientific Misconduct" ("MPG Code of Procedure" 1997, amended 2000, p. 4).
- "Misrepresentation is (...) the falsification or fabrication of data, but not the omission of the indication that the text was generated by an AI." (Salden & Leschke, 2023, p. 31)

- "the unmarked adoption of AI-generated texts from ChatGPT [nevertheless] violates the rules of good scientific practice" (Salden & Leschke, 2023, p. 31), because it should be stated in a way that is comprehensible to third parties "which content originates from one's own thoughts and which sentences were taken from external sources" (Salden & Leschke, 2023, p. 31)
- "It is also conceivable that corresponding sets of rules declare a certain way of using AI tools to be compatible with scientific behaviour, for example, if a significant amount of intellectual input has gone into the work with the tool." (Salden & Leschke, 2023, p. 32)

What can be derived from this for cooperation between students, teaching staff and departments?

- Students should be made aware that the use of content-generating AI applications without labelling is against good scientific practice.
- Students should be made aware that this quickly becomes apparent in normal scientific discourse and leads to permanent damage to their own career opportunities and reputation as a scientist.
- Teachers and departments should be made aware that students should be provided with an appropriate and transparent system for documenting the use of content-generating AI applications so that they can be used in a legally secure manner.
- Teaching staff and departments should be made aware that it is difficult to prove the use of content-generating AI applications without labelling and that any suspicion must be well-founded.
- If students are adequately supervised, especially in the case of theses, it is ensured that not only a thesis has been produced, but also that the necessary knowledge and skills have been acquired.
- The use of plagiarism software at Leibniz University is regulated in circular 26/2021. See also https://www.luis.uni-hannover.de/en/services/applications/applikations-hosting/plagiarism-search

2.4.2 What rights do students have when they hand in self-authored written assignments (AA) as coursework or assessments?

- "Assessments written by students are usually protected by copyright. The moment the examiner copies the examination paper into the AI software, a reproduction takes place." (Salden & Leschke, 2023, p. 37)
- Most examination regulations stipulate for the assessment of examination performance that the "assessment is to be made by each examiner (individual assessment) [...] and justified in writing". (Salden & Leschke, 2023, p 36)
- "In this context, the assessment must be linked to an individual performance." (Salden & Leschke, 2023, p. 36)
- The right to a non-automated assessment (usually derived from the examination regulations "assessment is carried out by the examiner") allows students to formulate their own assessment by entering keywords as a prompt. Name and enrolment number must not be included (data protection). It goes without saying that the text that is given out must be checked to see if the statement corresponds to one's own evaluation. (see Salden & Leschke, 2023, p. 37)

2.5 Effects of the AI Act

In 2024, the Artificial Intelligence Act (AI Act) was adopted by the European Commission. This is a European regulation on artificial intelligence that lays the foundations for the regulation of AI in the EU. This follows a risk-based approach and categorises AI applications into different risk categories. On the one hand, applications and systems that pose an unacceptable risk (e.g. state-run social scoring) are prohibited. On the other hand, strict legal requirements must be observed for high-risk AI systems. In addition, the regulation deals with AI systems that have a limited risk with lower transparency

obligations. Applications with the lowest risk remain largely unregulated. The AI Act imposes obligations on both providers, i.e. developers of AI applications, and operators. It is currently still unclear how these obligations are to be realised and structured. Practical guidelines will be used to assess what concrete effects can be expected on the use of AI in teaching.

3 Who compiled the handout?

Updated in October 2024 by Melanie Bartell (Dez. 2 / SG23). The first edition was compiled by the working group "AI in Teaching" with the participation of Melanie Bartell (Dez. 2 / SG23), Sylvia Feil (ZQS/elsa), Simon Kugler (TIB), Jens Krey (Dez. 1 / SG11), Prof. Dr. Marius Lindauer (AI), Dr. Katja Politt (PhilFak), Dr. Inske Preißler (ET-IT), Dr. Klaus Schwienhorst (LLC), Felix Schroeder (ZQS/elsa), Prof. Dr. Henning Wachsmuth (AI).

This handout will have to be revised in the course of progressing legal regulations and case law.

4 Which sources are cited?

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