

My prompt:
Rectangular illustration on observations and perspectives on generative AI and good academic practice



ChatGPT rewrite:
Rectangular illustration depicting a balance scale. On one side, there's a representation of generative AI with flowing data and algorithms. On the other, academic symbols like graduation caps, books, and ethical icons show the weight of good academic practice.

Observations and perspectives on generative AI and good academic practice

CDUL webinar

Karsten Kryger Hansen,

Chief Consult

Digital Scholarship, Aalborg University Library



AALBORG
UNIVERSITET

Agenda

- ▶ Good academic practice
- ▶ Dilemmas related to good academic practice
- ▶ ... some answers
- ▶ Questions

The Danish Code of Conduct for Research Integrity (2014)

Honesty

To ensure the trustworthiness of research, researchers should be **honest** when reporting objectives, methods, data, analysis, results, conclusions, etc.

This requires accurate and balanced reporting when:

- presenting and interpreting research
- making claims based on findings
- acknowledging the work of other researchers
- applying for research funding
- reviewing and evaluating research

Transparency

To ensure the credibility of scientific reasoning and to ensure that academic reflection is consistent with practice in the relevant field of research, all phases of research should be **transparent**.

This requires openness when reporting:

- conflicts of interest
- planning of research
- research methods applied
- results and conclusions

Accountability

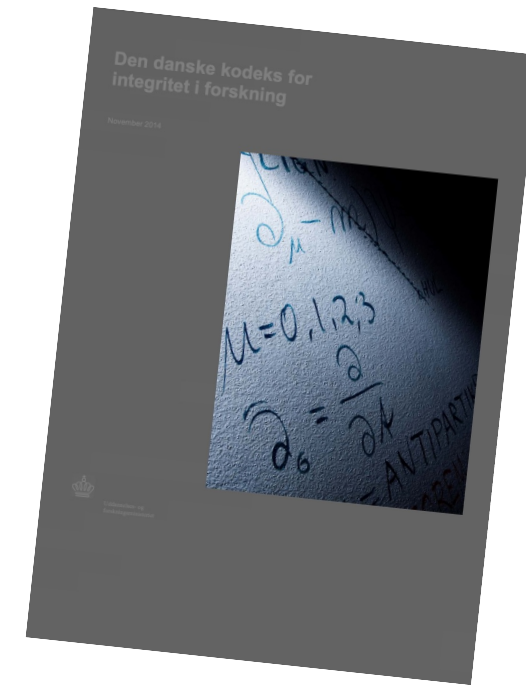
To ensure the reliability of research, all parties involved should be **accountable** for the research carried out.

This requires that researchers and institutions accept responsibility for the research they are conducting, in terms of:

- accuracy and reliability of research results
- adherence to all relevant regulations
- fostering and maintaining a culture of research integrity through teaching, training, and supervision
- taking appropriate measures when dealing with breaches of responsible conduct of research



- v. When using one's own work and the work of other researchers in a publication, appropriate and accurate references to such work should be provided.
- ii. **Researchers** are responsible for ensuring adequate reference to the work of others.
- iii. **Researchers** are responsible for ensuring that omission of research results is justified and documented and that data used in the publication are reliable.
- iv. **Researchers acting as peer reviewers and editors** should carry out their review and editorial obligations in an honest and unbiased manner.



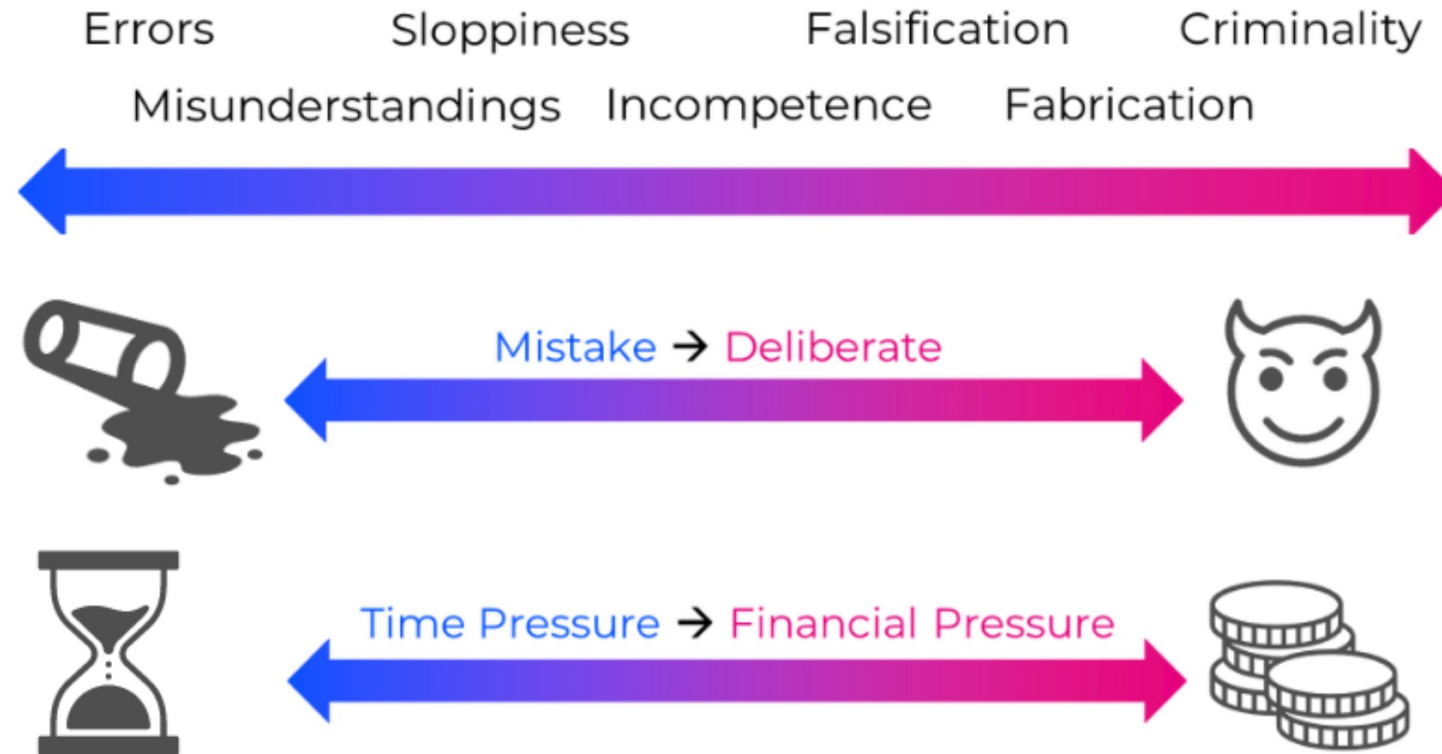
Code of conduct

The European Federation of academics of sciences and humanities

🇩🇰 Royal Danish Academy of Sciences and Letters



New (2023) ALLEA (2023) The European Code of Conduct for Research Integrity – Revised Edition 2023. Berlin. DOI 10.26356/ECOC	Previous (2017) ALLEA (2017) The European Code of Conduct for Research Integrity – Revised Edition. Berlin.
Plagiarism is using other people’s work or ideas without giving proper credit to the original source.	Plagiarism is using other people’s work and ideas without giving proper credit to the original source, thus violating the rights of the original author(s) to their intellectual outputs.
Removed	These three forms of violation are considered particularly serious since they distort the research record.
3.1 Research Misconduct and other Unacceptable Practices Hiding the use of AI or automated tools in the creation of content or drafting of publications.	Not mentioned
2.3 Research Procedures Researchers report their results and methods, including the use of external services or AI and automated tools , in a way that is compatible with the accepted norms of the discipline and facilitates verification or replication, where applicable.	Researchers report their results in a way that is compatible with the standards of the discipline and, where applicable, can be verified and reproduced.
2.8 Reviewing and Assessment Researchers, research institutions, and organisations review and assess submissions for publication, funding, appointment, promotion, or reward in a transparent and justifiable manner, and disclose the use of AI and automated tools.	2.8 Reviewing, Evaluating and Editing Researchers review and evaluate submissions for publication, funding, appointment, promotion or reward in a transparent and justifiable manner.



Simon Kolstoe. Defining the Spectrum of Questionable Research Practices (QRPs), UKRIO, 2023
<https://doi.org/10.37672/UKRIO.2023.02.QRPs>

Generativ AI; 'it' – not a search engine

KK What are the current issues with generative AI from a research integrity point of view

Generative AI, which refers to AI systems capable of creating new content, has recently become the focus of intense research and development. However, as with any technology, there are potential issues with generative AI from a research integrity point of view. Some of the current issues include:

1. **Bias and Fairness:** Generative AI models are only as unbiased and fair as the data they are trained on. If the data contains bias or is not representative of the population, the generative AI model will reflect that bias, potentially leading to discriminatory outcomes. Ensuring that generative AI models are fair and unbiased is an ongoing challenge.
2. **Data Privacy:** Generative AI models are often trained on large datasets, which may contain personal information. If this data is not properly anonymized, it can compromise the privacy of individuals. Researchers must ensure that the data they use to train generative AI models is appropriately anonymized and that privacy is protected.
3. **Reproducibility:** Reproducibility is a key tenet of scientific research. However, generative AI models can be complex and difficult to reproduce. Without proper documentation and transparency, it can be challenging for other researchers to reproduce the results of a study or to build upon previous research.
4. **Ethical concerns:** Generative AI can be used for a wide range of applications, some of which may raise ethical concerns. For example, the use of generative AI to create deepfakes, which are realistic but fake images or videos, can have serious implications for privacy and trust. Researchers must be mindful of the potential ethical implications of their work and ensure that their research is conducted with integrity and transparency.

Overall, these issues highlight the importance of conducting research on generative AI with integrity and transparency. Researchers must ensure that their work is conducted in a way that is fair, unbiased, and respects the privacy and ethical concerns of individuals. Additionally, researchers must make a concerted effort to document their work and make it reproducible, allowing others to build upon their findings and further advance the field.



Students attending in a virtual classroom on a lecture on academic practices in the utilisation of tools

Photo of students from different backgrounds, each in their own spaces, focused on a virtual lecture about the academic practices for tool utilization. Their screens showcase charts, graphs, and notes relevant to the topic.

```
5 type Task struct {
6     Id int
7     Title string
8     Priority int
9 }
10 func createTables(db *sql.DB) {
11     db.Exec("CREATE TABLE tasks (id INTEGER PRIMARY KEY, title TEXT, priority INTEGER)")
12 }
13 func selectTaskByPriority(db *sql.DB, priority int)
14
```

Chat with any PDF

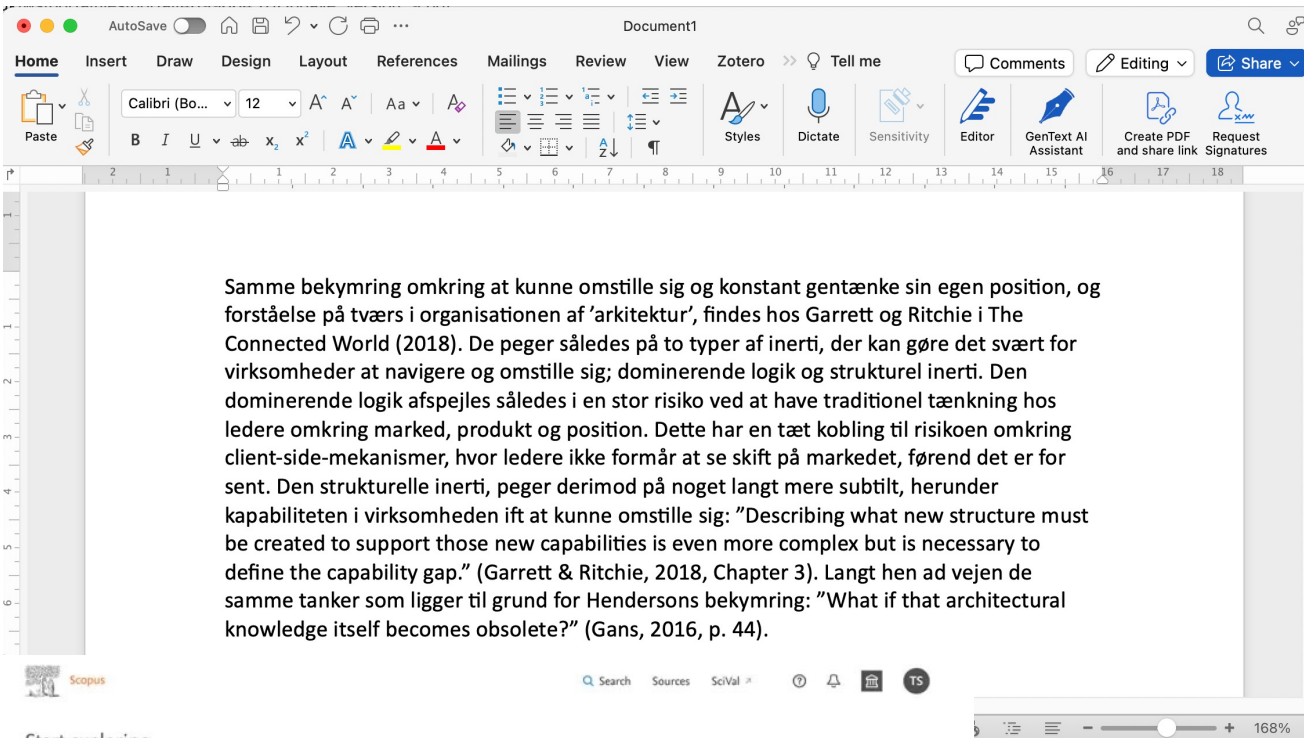
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1 Influence of seismology on civil engineering designs

2 Influence of seismology on civil engineering designs

Seismology plays a crucial role in civil engineering designs. It helps in understanding the behavior of engineering structures under earthquake effects and determining the location of seismic stations 1. Seismic waves' velocity is important for defining suitable construction locations and monitoring seismic activity efficiently 2. Seismology also contributes to the safety, sustainability, and resilience of civil engineering structures in seismic areas 3. It aids in the innovation and design of exceptional structures in earthquake-prone areas 4. Additionally, seismological research provides valuable insights into crustal architecture, geodynamics, and earthquake source parameters, benefiting engineering seismology applications 5. Overall, seismology significantly influences civil engineering designs by enhancing safety, efficiency, and resilience in earthquake-prone regions 2 3 4 5.

Show all references Rate this summary

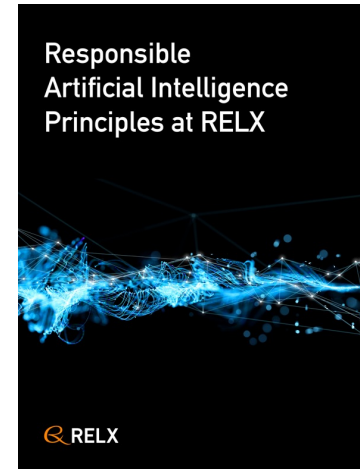
3

- How does seismology influence the design of tall buildings in earthquake-prone areas?
- What role does seismology play in the design of bridges to ensure their stability during seismic events?
- How does seismology impact the construction of underground structures like tunnels and subway systems?

Share feedback

4

- Earthquake monitoring
- Geotechnical Engineering
- Earthquakes
 - Damage Study
 - Impact
- Structural analysis
- Civil Engineering
 - Research
 - Sustainability
 - Innovation
- Seismic Design



AS PART OF OUR RESPONSIBLE AI APPROACH...

1. We consider the real-world impact of our solutions on people
2. We take action to prevent the creation or reinforcement of unfair bias
3. We can explain how our solutions work
4. We create accountability through human oversight
5. We respect privacy and champion robust data governance

What are the current issues with generative AI from a research integrity point of view

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An architectural view of one storey 500 meters horizontal long Iban longhouse in Borneo jungle, futuristic, cyberpunk, Wakanda theme, 8k, Ray Tracing, photorealistic rendering

```

5  type Task struct {
6  - - Id      int
7  - - Title   string
8  - - Priority int
9  }
10 func createTables(db *sql.DB) {
11 - - db.Exec("CREATE TABLE tasks (id INTEGER PRIMARY KEY, title TEXT, priority INTEGER)")
12 }
13 func selectTaskByPriority(db *sql.DB, priority int)
14

```

The role of the algorithm, a possible Matthew effect?

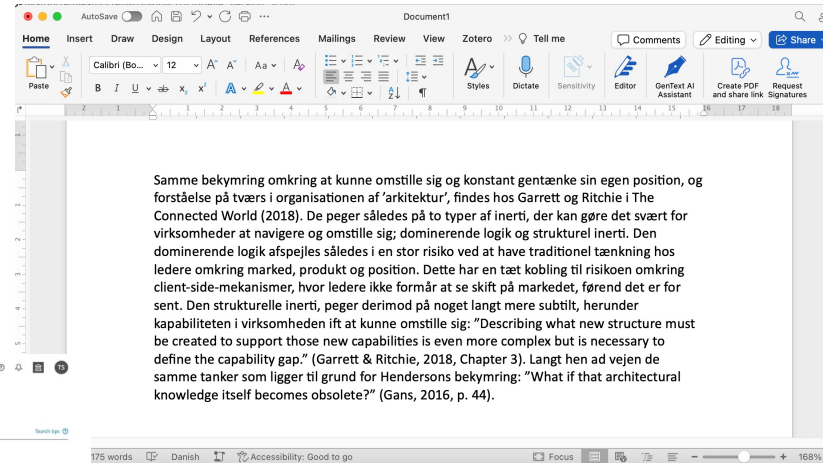
Filter bubbles

Impact of convenience

Fostering serendipity

Checking vs Trust

A paradigm shift



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1 Influence of sustainability on civil engineering designs

2

3

4

KK

vejregister.json
File

What is the contents of this file?



Let's start by reading the contents of the uploaded file to see what it contains.



Finished working Show work

The uploaded file appears to be in GeoJSON format, which is a common format for encoding geographic features. Here's a brief summary of its structure:

- The file contains a collection of geographic features.
- Each feature has:
 - A `type`, which is "Feature" for all entries.
 - An `id` to uniquely identify the feature.
 - `geometry`, which describes the shape and location of the feature.
 - The `type` of geometry is "MultiLineString", which means the feature consists of multiple line segments.
 - The `coordinates` provide the actual geographic coordinates of the feature.
 - `properties`, which contain various metadata associated with the feature. Some of the properties included are:
 - `bydel`: District or neighborhood.
 - `vejnavn`: Name of the road.
 - `vej_id`: Road ID.
 - `vej_kode`: Road code.
 - `fra_vejnavn` and `til_vejnavn`: Names of the roads at the start and end of the

Regenerate

KK

Make a graph of 'vejnavn' showing the name and number of times it is mentioned

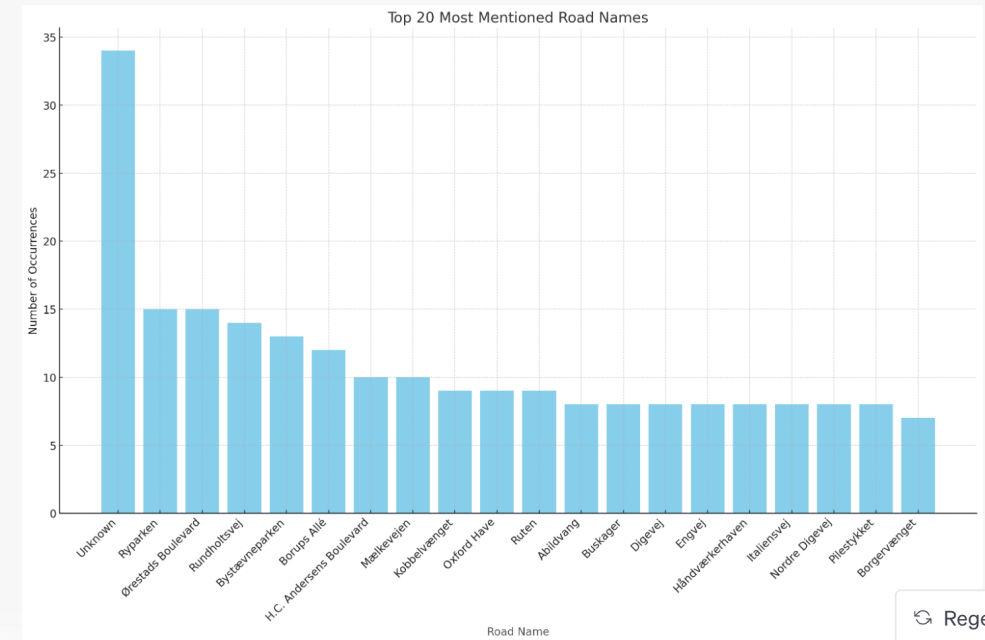


Finished working Show work



I apologize for the error. It seems that there might be `None` values or other non-string types within the `vejnavn` which are causing issues when plotting. Let's filter out any non-string values and attempt the plot again.

Finished working Show work



Regenerate

4) Tackle challenge of generative AI and the rise of synthetic texts and images

We underline that safeguarding reasonable costs does not imply a low-cost or even zero-cost system for disseminating scholarly findings. In contrast, in the light of rapidly emerging generative artificial intelligence (AI) approaches, such as those underpinned by large language models, and their enormous and growing capacity to generate synthetic text and images – some of which can appear highly scientific and require specialist knowledge to identify as nonsense – overall costs related to the dissemination of scholarly findings will likely increase. While costs for the distribution of scholarly findings will remain low and decreasing, costs for supporting existing and developing new approaches for safeguarding the integrity of the scientific record will increase, likely substantially. We emphasise that by empowering researchers, bolstering S&T infrastructures, and ensuring reasonable costs in other areas (subheadings 1 through 3 above), new resources allocated can more effectively be focused to tackle this growing challenge.

In light of the rapid deployment and growing usage of generative AI approaches for producing synthetic text and images:

- > We call on the EU institutions to acknowledge and plan for the substantial new resources needed (at EU and national levels) for safeguarding the integrity of the scientific record;
- > We invite the European Commission to come forward with a proposal for developing and coordinating the policy approaches and tools needed at the EU level to tackle this rapidly emerging challenge, and offer our commitment, expertise and support for this endeavour.



ChatGPT – A new relationship between humans and machines [Op-ed]

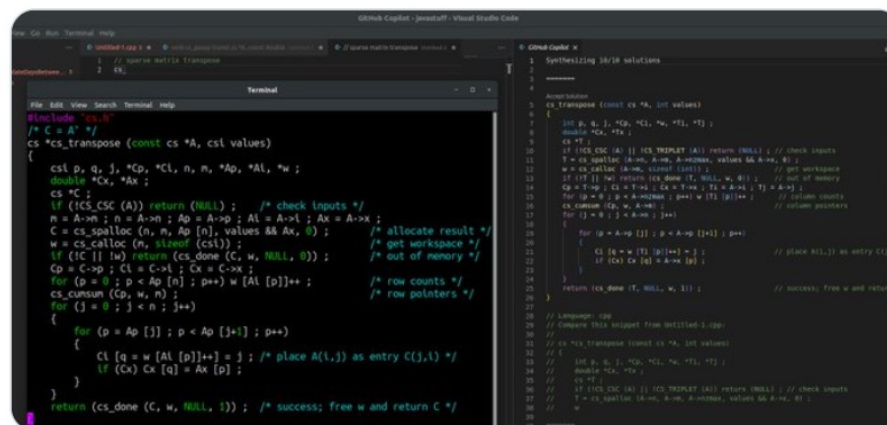
27 February 2023 | Thomas Jorgensen, European University Association

The AI debate goes much further than cheating on exams or generating texts for scientific articles; it is also about university values. For University World News, EUA's Thomas Jorgensen explores this new relationship between humans and machines, its risks, benefits, and what it means for the integrity of academic work.



Tim Davis
@DocSparse

@github copilot, with "public code" blocked, emits large chunks of my copyrighted code, with no attribution, no LGPL license. For example, the simple prompt "sparse matrix transpose, cs_" produces my cs_transpose in CSparse. My code on left, github on right. Not OK.



...

Policy Author	Excerpt of updated policy
Taylor & Francis (2023)	Authorship requires taking accountability for content, consenting to publication via an author publishing agreement, giving contractual assurances about the integrity of the work, among other principles. These are uniquely human responsibilities that cannot be undertaken by AI tools. Therefore, AI tools must not be listed as an author. Authors must, however, acknowledge all sources and contributors included in their work. Where AI tools are used, such use must be acknowledged and documented appropriately.
Springer-Nature (2023)	Corresponding author(s) should be identified with an asterisk. Large Language Models (LLMs), such as ChatGPT, do not currently satisfy our authorship criteria. Notably an attribution of authorship carries with it accountability for the work, which cannot be effectively applied to LLMs. Use of an LLM should be properly documented in the Methods section (and if a Methods section is not available, in a suitable alternative part) of the manuscript.
Science (2023)	Text generated from AI, machine learning, or similar algorithmic tools cannot be used in papers published in <i>Science</i> journals, nor can the accompanying figures, images, or graphics be the products of such tools, without explicit permission from the editors. In addition, an AI program cannot be an author of a <i>Science</i> journal paper. A violation of this policy constitutes scientific misconduct.
Elsevier (2023)	Where authors use AI and AI-assisted technologies in the writing process, these technologies should only be used to improve readability and language of the work and not to replace key researcher tasks such as producing scientific insights, analyzing and interpreting data or drawing scientific conclusions. Applying the technology should be done with human oversight and control and authors should carefully review and edit the result, because AI can generate authoritative-sounding output that can be incorrect, incomplete or biased. The authors are ultimately responsible and accountable for the contents of the work.



Image: iStock

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Draft law sets out penalties for AI-aided academic writing

Mimi Leung 01 September 2023

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Students and academics who use artificial intelligence tools to 'ghostwrite' essays or dissertations risk having their degrees revoked according to a new draft Degree Law to tackle misconduct, including plagiarism that is currently before China's National People's Congress (NPC).

The draft law, submitted to the Standing Committee of the NPC this week, proposes that degrees should be revoked for a raft of infractions related to misconduct, cheating and fraud.

The penalties will also apply to bachelor, masters or doctoral degrees if students have used 'illegal means', including ghostwritten essays.

The degree granting institution will have to conduct a review of the draft law tabled on 28 September during the NPC's deliberation.

OPSPIND • Hvordan kunne en videnskabelig artikel citere en dansk professor for to studier, som ikke eksisterer? Den mystiske sag viser, hvor nemt kunstig intelligens kan bringe forskere i uføre.

Tusindben på afveje

GUNVER LYSTBRÆK VESTERGÅRD

Henrik Enghoff er professor på Statens Naturhistoriske Museum. Hans store passion er tusindben, og han bliver normalt stolt, når andre citerer hans forskning. Men for nogle måneder siden blev han i stedet chokeret. Det startede med en e-mail, der oplyste ham om, at han på preprintserveren Preprints.org var citeret i artiklen »From Beneficial Anthropods to Soil-Dwelling Organisms: A Review on Millipedes«.

En preprintserver er et sted, hvor videnskabelige artikler lægges ud, så andre forskere kan læse dem, inden de er publiceret i et tidsskrift. En ganske udbredt praksis. Men Henrik Enghoff indstod hurtigt, at noget var »vredt gådt«.

»Det, der kom frem, når jeg søgte på mit efternavn, passede ingen steder hen«, siger Enghoff. Han stod som forfatter eller medforfatter til tre artikler i referencelisten. Den første handlede om tusindbens vækst, men blev brugt til at beskrive adfærd af tusindben i dydansksten. De to næste havde hverken han eller andre skrevet. De var opdigtet.

Enghoff fik sin kontakt til lektor i Biologi David Nash på Københavns Universitet. Nash havde som et eksperiment spurgt OpenAIs sprogrobot ChatGPT, om den kunne give ham en liste over videnskabelige artikler om sommerfugarten cirsiumblåflue i Danmark.

»Den kom tilbage med seks syv referencer«, siger Nash, og de to næste indrettede ud.

Men det var de ikke. Alle på nær en havde ChatGPT selv fundet på.

»Det er jo egentlig hvad vi kan forvente af ChatGPT. Den tager blot indhold og sætter det sammen, så det giver mening«, siger Nash, der tog en sikringsprove fra den artikel, Enghoff var citeret i og fandt, at i hvert fald reference nummer 20, 30, 40 og 50 var falske.

Så kontaktede Nash Preprints.org og mediet Retraction Watch, der trækker historier fra netop sådan.

Preprints.orgs redaktør skrev til Nash: »Vi vil trække den (artiklen, red.) tilbage med det samme«.



»De fleste går bare ud fra, at referencerne er korrekte, svar når årstal og forfatternavne ser nogenlunde okay ud«.

Den tilbagetrukne artikel er ikke ren voldspråk, det meste af teksten giver umiddelbart mening. Dog er der alarmerende faktuelle fejl, som tyder på indblanding fra en kunstig, maskinel forfatter. Artiklen handler om bekæmpelse af tusindben som skadedyr. Der ved Henrik Enghoff ikke meget om. Men han ved, hvilke arter der lever hvor.

Således får man ikke noget ud af at bekæmpe Prævides (impressari) New Zealand, som artiklen harværdier er skat, for arten lever ikke i landet. Endnu værre står det til med *Hylonomys rufus* demomonis. Der findes ikke nogen tusindbensart med det navn.

Preprints.orgs redaktør skrev til Nash: »Vi vil trække den (artiklen, red.) tilbage med det samme«.

ÆNSKEN, HANSEN OG AI

DEBAT

Det er nok ulovligt og i hvert fald uetisk at bruge ChatGPT

FREMTIDENS AI. Danske akademiske og publicistiske medier og biblioteker bør hoppe på Don't Scrape Me-bølgen og arbejde sammen om en dansk-produceret sprogmodel.

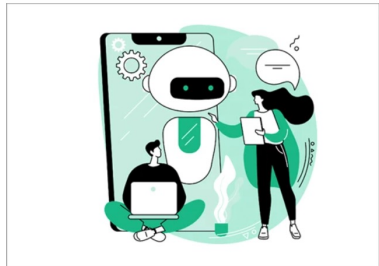
Af Redaktionen Udgivet: 3 dage siden



Andre læser:

- 1 Forskere er mere stressede end andre - og det truer kvaliteten af forskningen
- 2 Uenighed er uholdbar: Dekan stopper på KU
- 3 Har kunstig intelligens gjort os bange for vores egen skygge?
- 4 Jens-Christian Svenning: - Min forskerkarriere var både inspireret af min far og af min farfars og farmors skipperhjem på Fanø
- 5 Hvad skal vi med kunstig intelligens?

Fostering good research practice - in times of “a pacing problem”

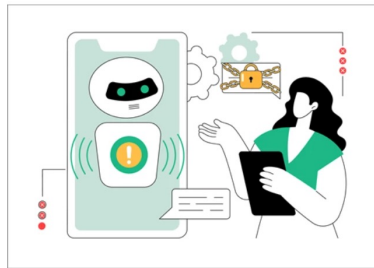


1. GOOD ACADEMIC PRACTICE

Become more knowledgeable about etiquette and usage of utilisation of generative AI.

Good academic practice >

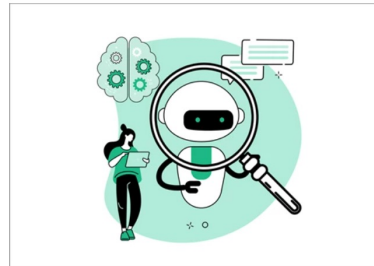
Declare!



2. PROTECT OTHERS, YOURSELF AND CONTENT

Be aware of what knowledge and information you share with a platform.

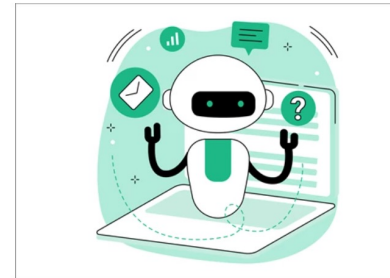
Protect yourself, others and content >



3. EVALUATING PLATFORMS

What points should you be aware of when evaluating your usage?

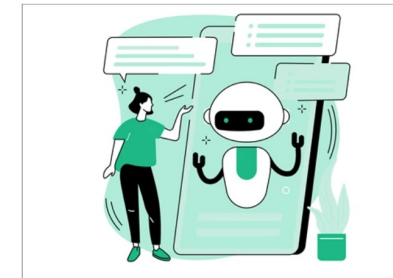
Evaluating platforms >



4. USAGE SCENARIOS

When and how can you advantageously use generative AI?

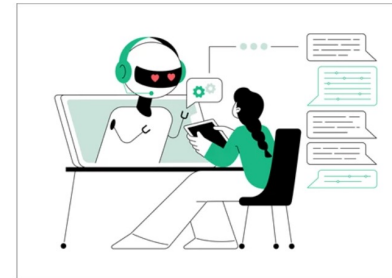
Scenarios for usage >



5. CREATE EFFECTIVE PROMPTS

How do you provide good inputs to a chat robot?

Create effective prompts >



6. DON'T BE SEDUCED

Learn more about how your brain can be 'seduced' by generative AI.

Don't be seduced >