

AI for Academia

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A Survey of Scientific Large Language Models: From Data Foundations to Agent Frontiers

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<https://github.com/open-sciencelab/Awesome-Scientific-Datasets-and-LLMs>

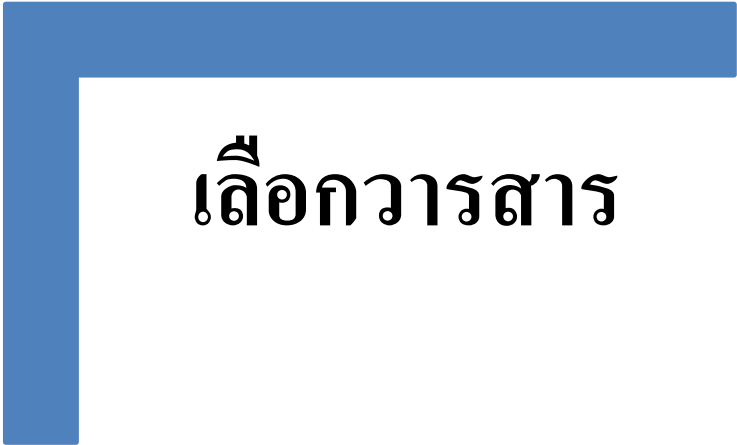
Abstract—Scientific Large Language Models (Sci-LLMs) are transforming how knowledge is represented, integrated, and applied in scientific research, yet their progress is shaped by the complex nature of scientific data. This survey presents a comprehensive, data-centric synthesis that reframes the development of Sci-LLMs as a co-evolution between models and their underlying data substrate. We formulate a unified taxonomy of scientific data and a hierarchical model of scientific knowledge, emphasizing the multimodal, cross-scale, and domain-specific challenges that differentiate scientific corpora from general natural language processing datasets. We systematically review recent Sci-LLMs, from general-purpose foundations to specialized models across diverse scientific disciplines, alongside an extensive analysis of over 270 pre-/post-training datasets, showing why Sci-LLMs pose distinct demands—heterogeneous, multi-scale, uncertainty-laden corpora that require representations preserving domain invariance and enabling cross-modal reasoning. On evaluation, we examine over 190 benchmark datasets and trace a shift from static exams toward process- and discovery-oriented assessments with advanced evaluation protocols. These data-centric analyses highlight persistent issues in scientific data development and discuss emerging solutions involving semi-automated annotation pipelines and expert validation. Finally, we outline a paradigm shift toward closed-loop systems where autonomous agents based on Sci-LLMs actively experiment, validate, and contribute to a living, evolving knowledge base. Collectively, this work provides a roadmap for building trustworthy, continually evolving artificial intelligence (AI) systems that function as a true partner in accelerating scientific discovery.

Index Terms—Large Language Model; AI for Science; Scientific Data; Data4LLM

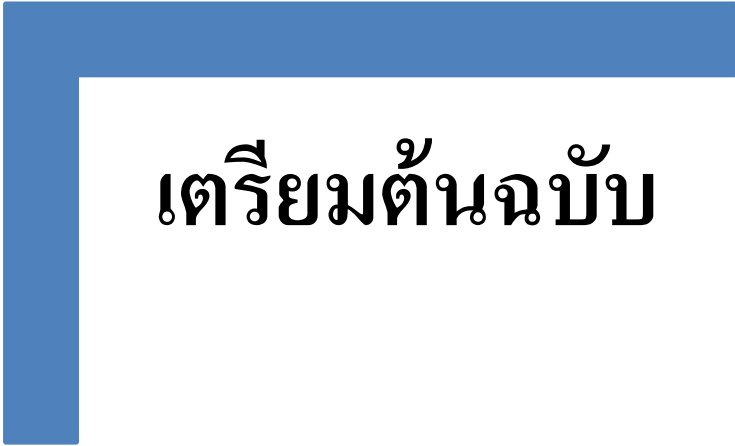
specific images in the original test sets, e.g., via extensive hyperparameter experiments show that the relative order of models is almost exactly preserved: the models with highest accuracy on the original test sets are also the models with highest accuracy on the new test sets. Moreover, there are no diminishing returns: a one percentage point of accuracy improvement on the original test set translates to a similar percentage point of accuracy improvement on our new test sets. So although later models could have been adapted to the new test sets, they would see smaller drops in accuracy. These results provide evidence that ex

* Authors ordered alphabetically. Ben did none of the work.

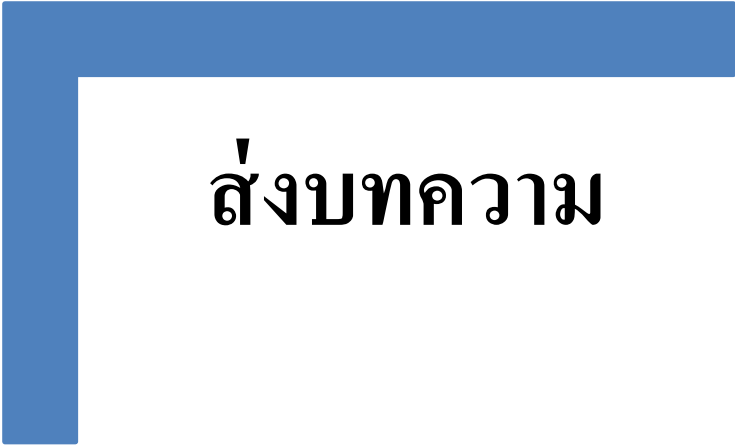




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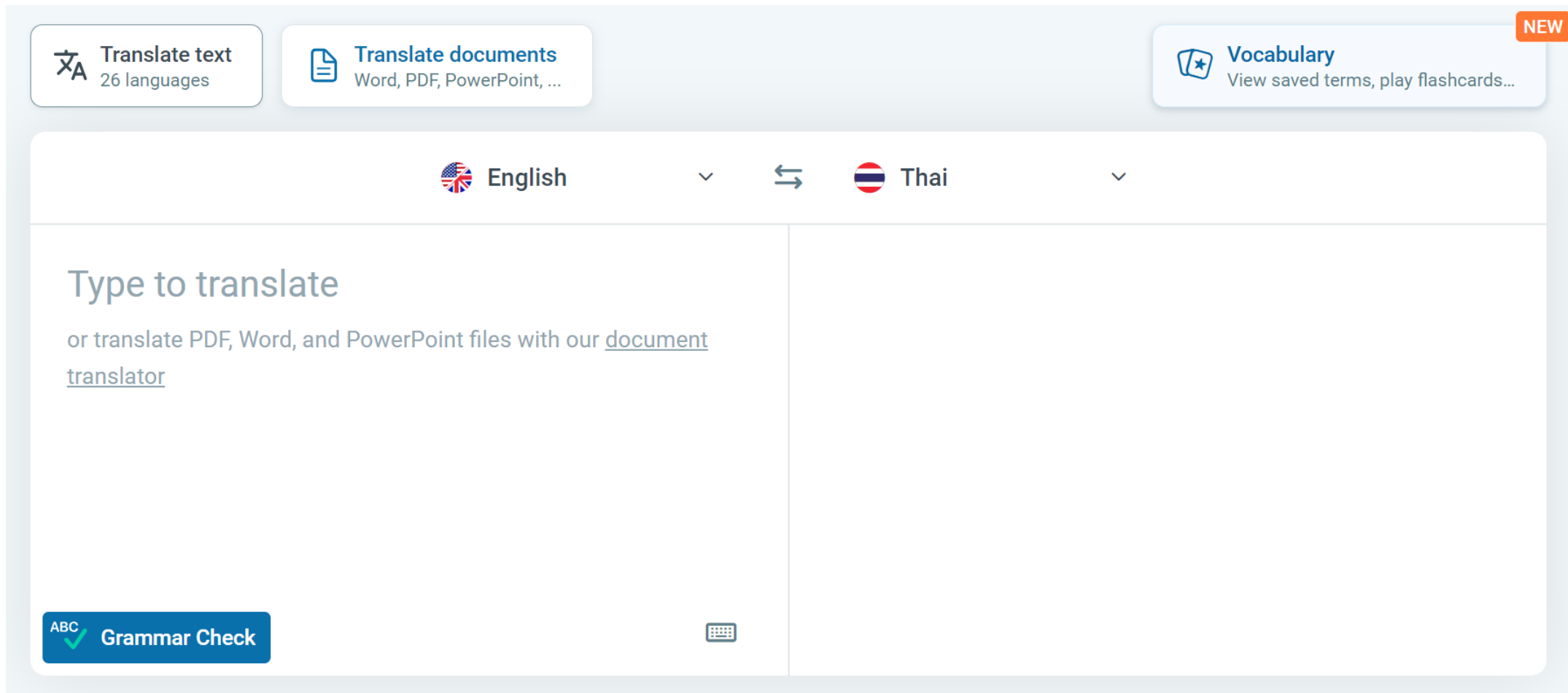
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for my presentation



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Explain the following code step-by-step in detail



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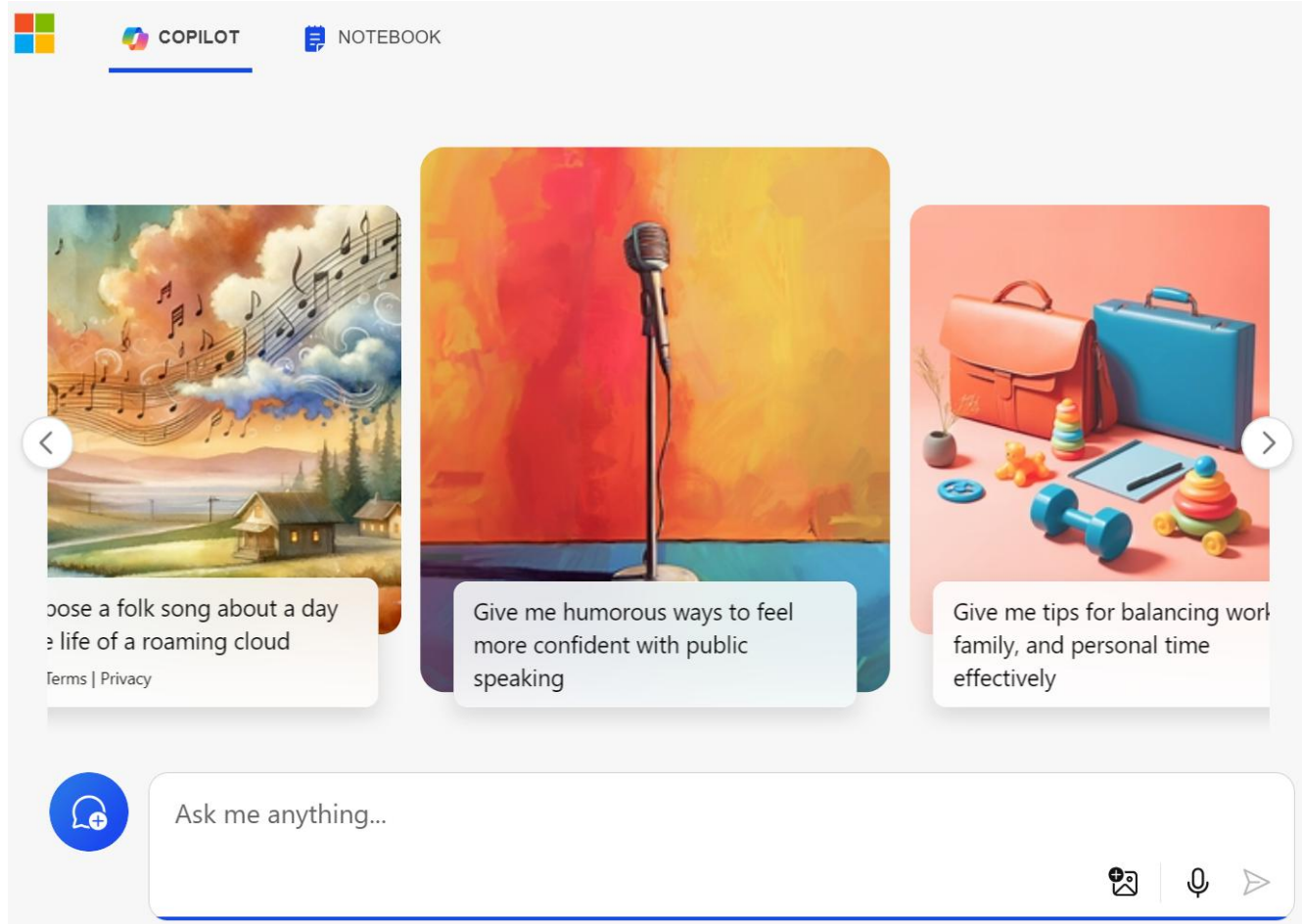
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Analyze text

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of text is likely AI-generated

AI-generated ⓘ--%

AI-generated & AI-refined ⓘ--%

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Human-written ⓘ--%



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0/1,200 words

Analyze text

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of text is likely AI-generated

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AI-generated & AI-refined ⓘ	--%
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AI Detector by Grammarly

Navigate responsible AI use with our AI checker, trained to identify AI-generated text. A clear score shows how much of your work appears to be written with AI so you can submit it with peace of mind.



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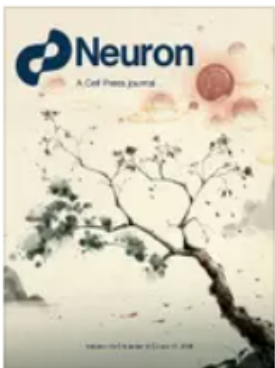
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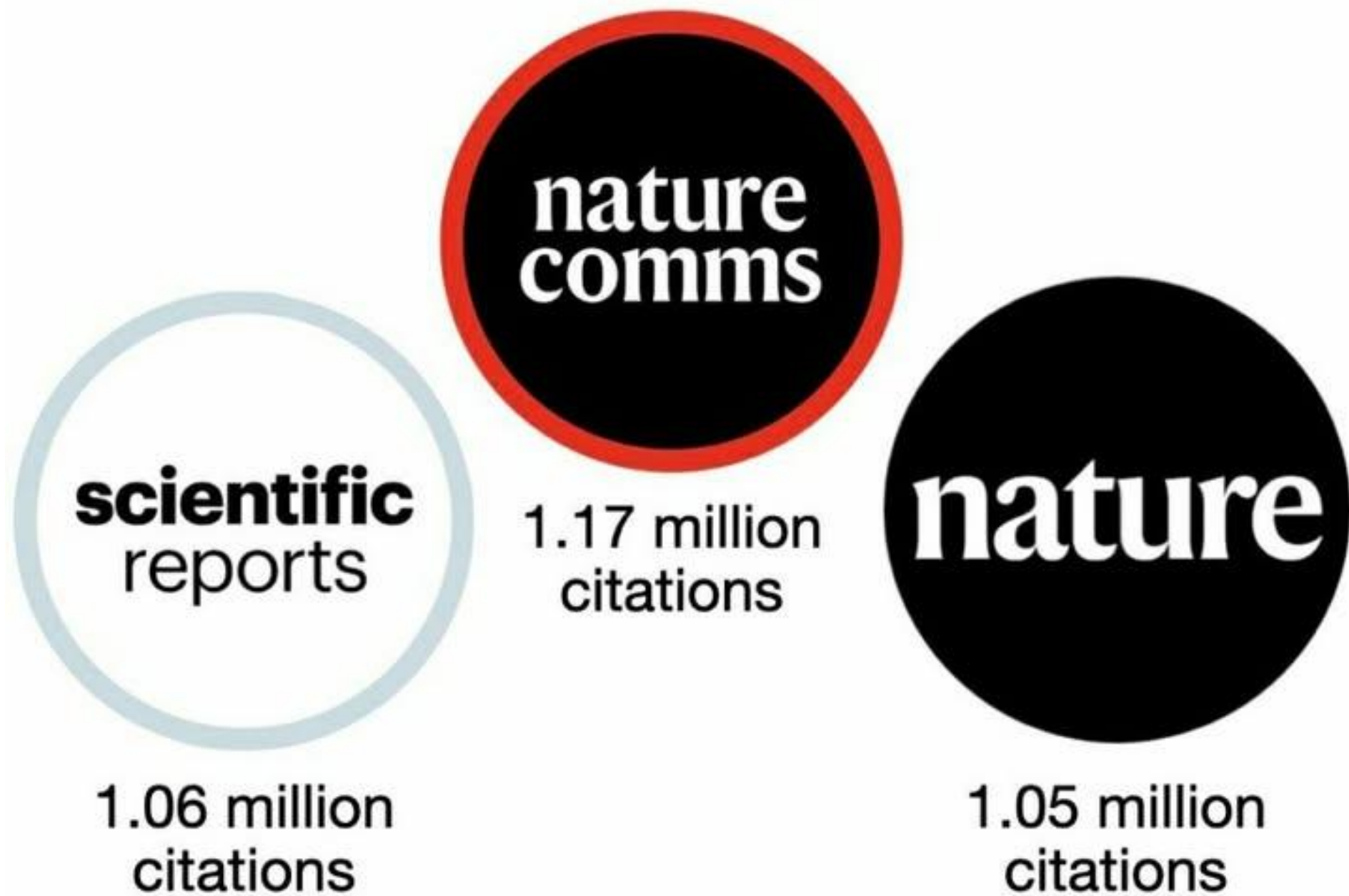
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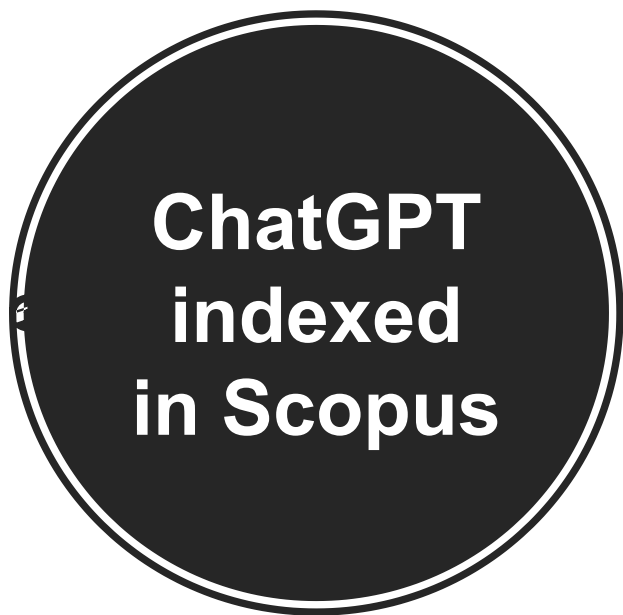
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[Mijwil, M.M.,Aljanabi, M.,ChatGPT](#)

[Iraqi Journal for Computer Science and Mathematics](#), 2023, 4(1), pp. 65–70

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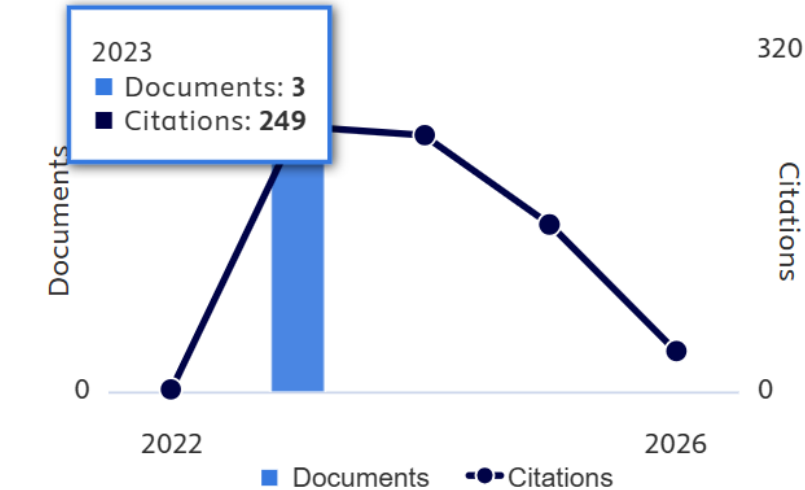
[Aljanabi, M.,Ghazi, M.,Ali, A.H.,Abed, S.A.,ChatGpt](#)

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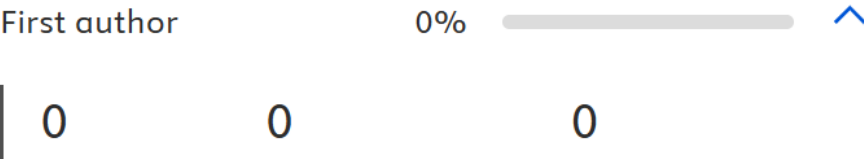
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ข้อมูลจากงานวิจัยคลุมเครือ

Review | [Open access](#) | Published: 06 May 2025

RETRACTED ARTICLE: The effect of ChatGPT on students' learning performance, learning perception, and higher-order thinking: insights from a meta-analysis

[Jin Wang](#) & [Wenxiang Fan](#) 

[Humanities and Social Sciences Communications](#) **12**, Article number: 621 (2025) | [Cite this article](#)

475k Accesses | **258** Citations | **738** Altmetric | [Metrics](#)

Retraction Note to: *Humanities and Social Sciences Communications*

<https://doi.org/10.1057/s41599-025-04787-y>, published online 06 May 2025

The Editor has decided to retract this paper owing to concerns regarding discrepancies in the meta-analysis. These issues ultimately undermine the confidence the Editor can place in the validity of the analysis and resulting conclusions. The authors have not responded to correspondence regarding this retraction.

Author information

Authors and Affiliations

Jing Hengyi School of Education, Hangzhou Normal University, Hangzhou, China

Jin Wang & Wenxiang Fan

Retraction notice

Retraction notice to “The application and challenges of ChatGPT in educational transformation: New demands for teachers' roles” [Heliyon 10 (2024) e24289]

Hao Yu

การอ้างอิงแหล่งที่มาของข้อมูลไม่สมเหตุสมผล
การใช้ AI ในการเขียนบทความ

Referred to by

Retraction notice to “The application and challenges of ChatGPT in educational transformation: New demands for teachers' roles” [Heliyon...

Heliyon, Volume 11, Issue 9, April 2025, Pages e43319

Hao Yu

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This article has been retracted: please see Elsevier Policy on Article Withdrawal (<https://www.elsevier.com/about/policies/article-withdrawal> ↗).

This article has been retracted at the request of the Editors.

Post-publication, an investigation conducted by Elsevier's Research Integrity & Publishing Ethics team on behalf of the journal identified references that are irrelevant to the article and a distinct lack of citations in large sections of the text. The author was asked to comment upon the references in their work but was unable to satisfactorily address the reason for the references.

Additionally, there are concerns that the author appears to have used a Generative AI source in the writing process of the paper without disclosure, which is a breach of journal policy.

Consequently, the editor no longer has confidence in the integrity and the findings of the article and has decided to retract it. The scientific community takes a very strong view on this matter and apologies are offered to readers of the journal that this was not detected during the submission process.

A Cogitation on the ChatGPT Craze from the Perspective of Psychological Algorithm Aversion and Appreciation [Retraction]

Yu H. *Psychol Res Behav Manag.* 2023;16:3837-3844. **การอ้างอิงไม่สมบูรณ์ และไม่มีแหล่งข้อมูลต้นฉบับ**

At the authors request, we, the Editor and Publisher of the journal *Psychology Research and Behaviour Management* have retracted the following article.

Following publication of the article, the author advised the journal that a significant portion of the article's content was derived from translations of the Chinese language article 'Cold thoughts under the ChatGPT craze: A perspective of disgust and appreciation based on psychological algorithms' which was published in 2023 by Qi Yawei et al, by the *Journal of Chongqing University of Technology (Social Science)*. The author did not provide adequate acknowledgment regarding the original source material.

The author apologizes for this error and appreciates the readership's understanding in this matter. In the interest of upholding research integrity and ensuring the trustworthiness of the scientific record, the author believes it is necessary to retract the article. We, the Editor and Publisher, agreed with this decision.

ChatGpt Impact on Student Educational Performance: A Conceptual Analysis

Haroon Altarawneh*

Al-Balqa Applied University, Salt, Jordan

Abstract

INTRODUCTION: The primary focus of this study is how OpenAI's ChatGPT, a complicated language model, affects how well students learn.
OBJECTIVES: The purpose of this research is to study the several ways in which artificial intelligence may be used to address educational difficulties and give equal access to high-quality education.
METHODS: Using a strategy that combines quantitative data on how well the institution is doing with qualitative results from student surveys.
RESULTS: The research suggests that ChatGPT helps students do better in college. Students' grades going up suggests that AI technology is helping them understand and use what they are learning. New technologies make it possible for students to learn at their own pace by quickly sharing information and giving fast answers to many questions. The study also showed that ChatGPT can help students who are far away or having trouble with logistics.
CONCLUSION: This study says that using ChatGPT in the classroom helps students do better. The results showed that students learned more when the classroom was interesting and encouraging them to participate and learn more.

Keywords: Chatgpt, Chatbots, Models, Learning Outcomes

Received on 11 December 2023, accepted on 17 December 2023, published on 18 December 2023

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doi: 10.4108/eetel.4574

*Corresponding author. Email: dr.haroon@edu.iq

1. Introduction

Artificial intelligence has advanced since ChatGPT and other complicated language models. OpenAI's GPT-4 framework helps ChatGPT develop complicated language models for numerous uses, including teaching. This study describes how ChatGPT improves classroom learning. New research and ChatGPT usage are also discussed. ChatGPT, short for "Chatbot Generative Pre-Transformer," uses machine learning to write genuine dialog. Qureshi [1] states that colleges employ technology to help students study and instructors assist them. Milanga [2] reports that ChatGPT has been studied as a tutoring, language learning, and educational feedback and evaluation tool. AI model advancements enable new applications that might revolutionize learning. ChatGPT

influences classroom performance. AI is improving, creating complicated language models like ChatGPT that might transform teaching. AI technologies have been successful in numerous domains, but their effects on student growth are unknown. This research investigates how ChatGPT affects students' academic performance and problem-solving. Politicians and educators should weigh the pros and downsides of ChatGPT in the curriculum before deciding. Artificial intelligence lets teachers customize courses for each student, making learning more engaging and successful [3]. These variables affect learning results, thus studying them helps us improve education globally. Classrooms are typically overcrowded owing to space constraints in the education system. Funding shortages worsen educational institutions' problems [4]. Holmes [5] observed difficulties with uneven digital resource availability and data security risks. To encourage ethical and successful AI usage in education, ChatGPT's effects on student learning must be

We, the Publisher, have retracted the following article: Haroon Altarawneh (2023). ChatGpt impact on Student Educational Performance: a conceptual analysis. <https://doi.org/10.4108/eetel.4574> The article has been retracted due to misconduct during the peer review process. This does not implicate any wrongdoing from the author's side. We informed the authors about this decision. The retracted article will remain, and it has been watermarked as "RETRACTED".

กระทำผิดจริยธรรมในระหว่างกระบวนการกลั่นกรอง





Retraction Note: Application of Generative Artificial Intelligence AIGC Technology Under Neural Network Algorithm in Game Character Art Design

Jiaqi Li¹ · Qinchuan Liu^{1,2}

Published online: 22 November 2025

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Retraction Note: Journal of the Knowledge Economy (2024) 16:4652–4683
<https://doi.org/10.1007/s13132-024-02152-z>

The Editor-in-Chief and the publisher have retracted this article. The article was submitted to be part of a guest-edited issue. An investigation by the publisher found a number of articles, including this one, with a number of concerns, including but not limited to compromised editorial handling and peer review process, inappropriate or irrelevant references or not being in scope of the journal or guest-edited issue. Based on the investigation's findings the Editor-in-Chief therefore no longer has confidence in the results and conclusions of this article.

Author Jiaqi Li & Qinchuan Liu disagree to this retraction.

รายการอ้างอิงไม่เหมาะสม

รายการอ้างอิงไม่สามารถสืบค้นได้



RETRACTED ARTICLE: Artificial intelligence to enhance hemodynamic management in the ICU

Alexander P. J. Vlaar^{1*} , Sheila N. Myatra² and Christian Jung³

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The Editor-in-Chief has retracted this article. Following publication, it became apparent that the peer review process had not been carried out in accordance with the journal's editorial policies.

Additionally, concerns were raised that many of the listed references could not be verified in the scientific record. The authors have stated that these non-existent references resulted from the use of generative AI to convert the PubMed IDs of cited articles into a structured reference list. They have provided timestamped files to demonstrate this.

As a result, the Editor-in-Chief no longer has confidence in the reliability of the contents of the article. All authors disagree with the retraction.

The online version of this article contains the full text of the retracted article as Supplementary Information.

Supplementary Information

The online version contains supplementary material available at <https://doi.org/10.1007/s00134-024-07752-6>.

Publisher's Note

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Accepted: 30 November 2024

Published: 23 December 2024



Retraction trends in Indonesian research: misconduct, AI risks, and policy gaps

This paper carries at least three hallucinations in the reference list, all related to incorrect DOIs, and suggestive of the use of an LLM:

Kadri, S.M., Dorri, N., Osaiweran, M., Garyali, P., Petkovic, M.: Scientific peer review in an era of artificial intelligence. *Sci. Publ. Ecosyst.* (2024). https://doi.org/10.1007/978-3-031-30976-8_22

The correct DOI is: https://doi.org/10.1007/978-981-97-4060-4_23

Sun, Z., Zhang, C., Pang, K.L., Tang, Y., Li, Y.: Do changes in journal rank influence publication output? Evidence from China. *Scientometrics* 129, 7035–7054 (2024b).
<https://doi.org/10.1007/s11192-024-04678-1>

The correct DOI is: <https://doi.org/10.1007/s11192-024-05167-0>

Zhai, C., Wibowo, S., Li, L.D.: The effects of over-reliance on AI dialogue systems on students' cognitive abilities: a systematic review. *Smart Learn. Env.* 11, 28 (2024).
<https://doi.org/10.1186/s40561-024-00228-5>

The correct DOI is: <https://doi.org/10.1186/s40561-024-00316-7>



OPEN ACCESS

EDITED BY
David Cristóbal Andrade,
University of Antofagasta, Chile

REVIEWED BY
Jianfei Fu,
Tongji Hospital Affiliated to Tongji University,

Exploring the EEG representation of English listening comprehension under hypoxic conditions

potential for global deployment in language-related cognitive modeling under environmental stressors.

5 Conclusions and future work

Exploring the EEG Representation of English Listening Comprehension Under Hypoxic ConditionsAll the files uploaded by the user have been fully loaded. Searching won't provide additional information.This study investigates the impact of

hypoxic conditions on English listening comprehension, an area of growing relevance for cognitive performance in high-altitude environments. By addressing the limitations of traditional behavioral and physiological approaches, which often lack depth in capturing neural responses, the research introduces an innovative framework. This framework integrates EEG-based neural decoding with the Dynamic Linguistic Enhancement Model (DLEM), which enhances linguistic analysis through adaptive vocabulary, contextual grammar application, and cultural embedding. Using real-time EEG feedback, the study further employs the Contextual

Tortured Phrases (found)	Established Phrases (expected)
AI calculation	machine learning algorithm
blood clusters	blood clots
coronary illness	coronary artery disease
crude information	raw data
informational collection	dataset
measurable technique	statistical method
more established grown-ups	older adults / seniors / elderly people?
preparation set	training set

Moore T (2021) Planning for place: place attachment and the founding of rural community land trust. J Rural Stud 83:21–29.

<https://doi.org/10.1016/j.jrurstud.2021.02.008>

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Surfactant-modified LTA zeolite carbon paste electrode for sensitive phenol detection: Electrochemical and Theoretical Insights

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ARTICLE INFO

Keywords:
Surfactant-modified zeolite
Electrochemical sensor
Phenol detection
LTA zeolite
Square wave voltammetry (SWV)
Density functional theory (DFT)

ABSTRACT

Phenol is a hazardous pollutant commonly found in industrial effluents, necessitating accurate and sensitive detection methods. This work presents a novel electrochemical sensor based on a carbon paste electrode (CPE) modified with hexadecyltrimethylammonium bromide (HDTAB)-functionalized LTA zeolite synthesized from Algerian kaolin. Comprehensive characterization by XRD, FTIR, SEM, and elemental analysis confirmed successful zeolite synthesis and efficient surface modification. Electrochemical analysis revealed enhanced electron transfer kinetics, increased surface area, and reduced charge transfer resistance for the HDTA-LTA/CPE, enabling sensitive phenol detection. Square wave voltammetry displayed two linear detection ranges (2–100 μM and 150–600 μM) with a low detection limit of 0.56 μM . Theoretical studies using DFT, QTAIM, and RDG elucidated the hydrogen bonding and hydrophobic interactions underpin phenol adsorption. The sensor exhibited excellent reproducibility (RSD = 2.78 %), stability, selectivity, and applicability to real water samples. These findings establish HDTA-LTA/CPE as a promising platform for environmental phenol monitoring.

1. Introduction

Some of the most important organic pollutants in today's environment are phenolic chemicals. Anthropogenic sources, including mining, paint, pharmaceuticals, petrochemicals, cooking plants, pesticides, and so on, are responsible for the increasing amounts of phenolic compounds found in aquatic matrices, even though these compounds naturally occur in water as organic matter formed during synthesis and decomposition. Beyond their environmental stability, toxicity, and potentially carcinogenic nature, most of these phenolic contaminants threaten human health. As a result, determining the danger of specific environmental samples requires the ability to detect phenolic chemicals.

Phenol, the simplest phenolic compound, is widely present in natural waters, industrial effluents, and contaminated sites [1]. It is a corrosive

and irritating substance readily absorbed through the skin, respiratory, and gastrointestinal tracts in humans and animals, posing significant health risks with acute and chronic exposure [2]. Because of its high toxicity to humans and aquatic life, phenol is classified as a priority pollutant and subject to mandatory monitoring in many countries [3]. Accordingly, international organizations have established maximum allowable limits of 0.5 $\mu\text{g/L}$ for total phenolic compounds and 0.1 $\mu\text{g/L}$ for individual phenol in freshwater [4].

Traditional methods for phenol analysis, including chromatography and spectroscopy, are highly sensitive but limited by high operational costs, lengthy sample preparation, and reliance on sophisticated instruments. By contrast, electrochemical methods offer rapid, low-cost, and portable alternatives, with minimal sample handling and potential for real-time monitoring. These advantages motivate the use of

Refers to

RETRACTED: Surfactant-modified LTA zeolite carbon paste electrode for sensitive phenol detection: Electrochemical and Theoretical Insights

Electrochimica Acta, Volume 541, 20 November 2025, Pages 147327

Tahani-Achouak Chinar, Fayçal Baira, Karima Abderrahim, Abir Boublia, Sara Zidani, Kaouther Baira, Mohammed Raish, Yacine Benguerba

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Previous article in issue

Next article in issue

This article has been retracted: please see Elsevier policy on Article Correction, Retraction and Removal (<https://www.elsevier.com/about/policies-and-standards/article-withdrawal> ↗).

This article has been retracted at the request of the **Editor-in-Chief**.

The authors have plagiarized part of a paper that had already appeared in a PhD thesis of Mrs. Imene Abdou, submitted to the Department of Chemistry, University of Batna 1, in 2020, without obtaining authorisation and without acknowledging the thesis author as a co-author. One of the conditions of submission of a paper for publication is that authors declare explicitly that their work is original and has not appeared in a publication elsewhere. Re-use of any data should be appropriately cited. As such this article represents a severe abuse of the scientific publishing system. The scientific community takes a very strong view on this matter and apologies are offered to readers of the journal that this was not detected during the submission process.

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<https://doi.org/10.1016/j.electacta.2025.147327>

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Available online 5 September 2025

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An innovative ZnO—NbN composite cathodic electrode with large interfacial contact area for high performance supercapacitor

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ARTICLE INFO

Keywords:
NbN–ZnO composite
Pseudocapacitors
Electrode material
Electrolyte
Specific capacitance
Power density
Cyclic stability

ABSTRACT

Nanostructure engineering and compositional optimization are crucial for enhancing the performance of supercapacitors positive electrode. ZnO is a promising supercapacitor electrode material; however, its slow kinetics and instability limit its performance. Herein, we synthesized ZnO and NbN using hydrothermal technique. Fast-effective produced NbN–ZnO nanocomposites to address these issues. ZnO nanoparticles were incorporated into NbN sheets, resulting in a hybrid structure with a large specific surface area that improves electrolyte contact and ion diffusion. At 1 A g⁻¹, the composite material had a substantially greater specific capacitance than pure ZnO (175 F g⁻¹). The NbN–ZnO//MnO₂ asymmetric supercapacitor (ASC) has a specific capacitance of 175 F g⁻¹ at 1 A g⁻¹ and a maximum energy density of 76 Wh kg⁻¹. It retains 92.11 % of its specific capacitance after 10,000 cycles at 10 A g⁻¹, indicating high performance and cycling stability. These findings show that using the NbN–ZnO composite nanostructure as a negative electrode in an asymmetric arrangement can produce more efficient energy storage solutions for practical applications.

1. Introduction

Today, we are confronted with the immediate issues of energy shortages and environmental pollution. In response to these concerns, there is a growing need for more effective sustainable energy sources and the creation of sustainable energy storage systems [1–5]. Hybrid electronic devices, consumer electronics, and similar technologies predominantly depend on electrical energy as their primary sustainable energy source [6,7]. Nevertheless, a considerable effort has been made to achieve a balance between energy consumption and production while minimizing adverse environmental impacts and pollution. Several energy storage technologies, including batteries, fuel

cells, supercapacitors, have been extensively investigated to address this challenge [8,9]. In recent years, there has been growing interest in environmentally friendly energy systems, driven by their inherent benefits, including sustainability, cleanliness, and reduced environmental impact. Among these, supercapacitors have emerged as a particularly promising technology for renewable energy storage, offering benefits such as high-power density, efficient charges and discharge rates, long service cycle and minimal environmental impact [10–15]. To enhance the energy density of supercapacitors and meet high energy storage demands, modifying the composition and structure of electrode materials is a promising approach. Additionally, hybrid supercapacitors, which combine high energy materials as the positive electrode and

ดัดแปลงและปรับข้อมูลจากงานวิจัยให้เป็นไปตามต้องการ

This article has been retracted: please see Elsevier policy on Article Correction, Retraction and Removal (<https://www.elsevier.com/about/policies-and-standards/article-withdrawal> ↗).

This article has been retracted at the request of the **Editor-in-Chief**.

Following extensive correspondence and alleged evidence offered by both parties involved in this dispute, the handling editor, together with the Editor-in-Chief and the Publisher of Electrochimica Acta have reviewed the concerns raised regarding the above article and the Authors response and taken the **decision to retract the article** based on the reasons that Disputed data ownership (of SEM, EDS, XPS, XRD and electrochemical data, appearing both in the paper and the MSc Thesis “Preparation and properties of NbN/X (Fe₂O₃, ZnO, CuO) electrode materials for supercapacitors” by Yongguo Zhang, Kunming University of Science and Technology, China, 2024) and suspected data manipulation (SEM of Figure 1.b, containing sections more similar than expected).

The scientific community takes a very strong view on this matter and apologies are offered to readers of the journal that this was not detected during the submission process.

* Corresponding authors.

E-mail addresses: afaqchemist@gmail.com (A.U. Khan), ziaullah2331@gmail.com (M.Z.U. Shah), mezaki@inamu.edu.sa (M.E.A. Zaki).

<https://doi.org/10.1016/j.electacta.2024.145562>

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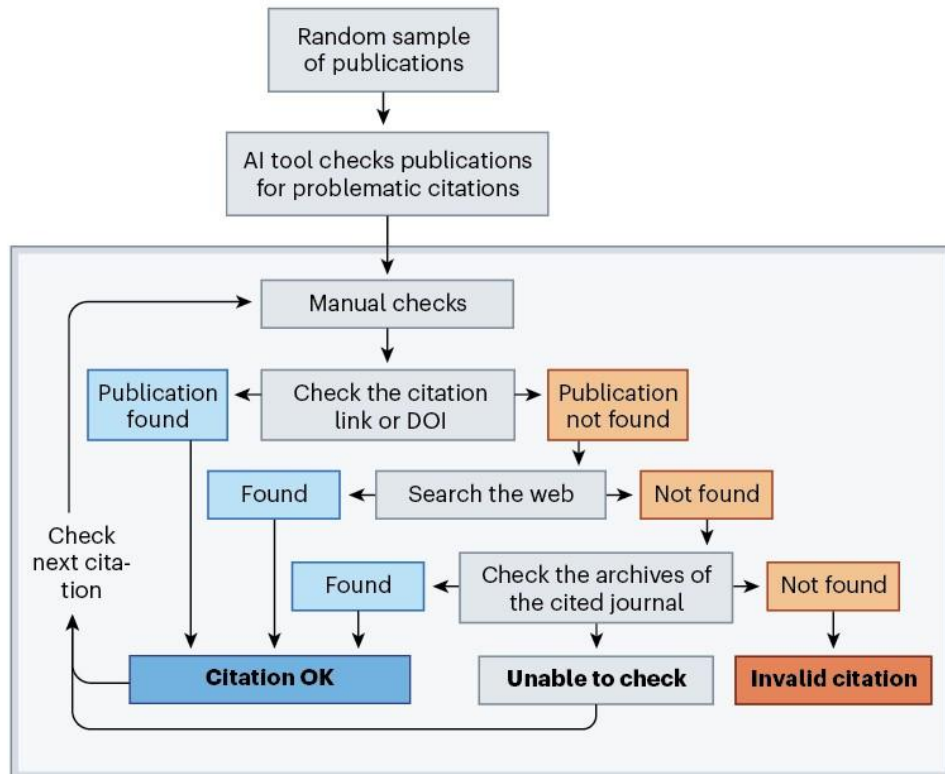
Hallucinated citations are polluting the scientific literature. What can be done?

Tens of thousands of publications from 2025 might include invalid references generated by AI, a *Nature* analysis suggests.

By [Miryam Naddaf](#) & [Elizabeth Quill](#)

FINDING THE FABRICATIONS

A *Nature* analysis started with more than 4,000 randomly selected publications from 2025 and then used an artificial-intelligence tool to flag problematic citations. *Nature*'s news team manually checked the 100 publications judged to be most suspicious. For 65 of those, at least one citation did not seem to point to a real publication and so might have been hallucinated.



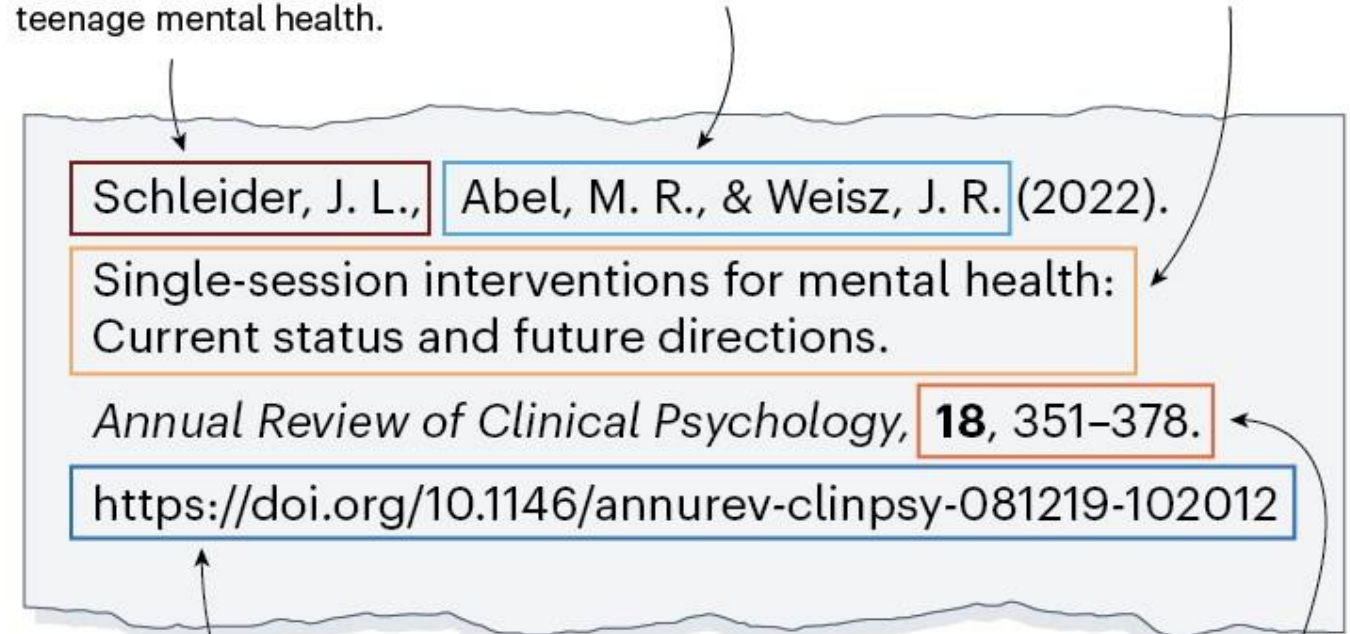
HOW FAKES CAN LOOK REAL

This citation, generated by AI as part of a 2025 study, looks plausible even though it points to research that doesn't exist.

The first author has published research on single-session interventions for teenage mental health.

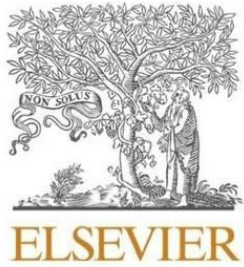
The co-authors have published papers with the first author.

The authors have published papers with some of the same words in the titles.



Although the DOI doesn't point to any publication, it begins in the same way as DOIs for other papers in this journal.

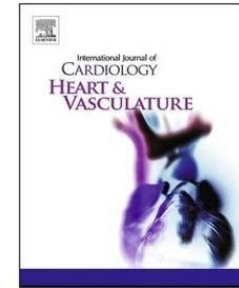
The pages listed are plausible for the volume, and the volume is plausible for 2022.



Contents lists available at ScienceDirect

IJC Heart & Vasculature

journal homepage: www.sciencedirect.com/journal/ijc-heart-and-vasculature



Retraction notice

Retraction notice to “The Prognostic-Diagnostic paradox of lead aVR: from ‘STEMI-Equivalent’ to ‘High-Risk NOMI’ in the era of precision cardiology” [IJC Heart Vasc. 63 (2026) 101893]

Bin Deng^a, Wenhua Liu^b, Qingmin Chu^c

^a Department of Cardiology, Shenzhen Bao'an Chinese Medicine Hospital, PR China

^b Department of Endocrinology, Bao'an Authentic TCM Therapy Hospital, PR China

^c Department of Cardiology, The First Affiliated Hospital of Guangzhou University of Chinese Medicine, PR China

This article has been retracted: please see Elsevier Policy on Article Withdrawal (<https://www.elsevier.com/about/policies/article-withdrawal>).

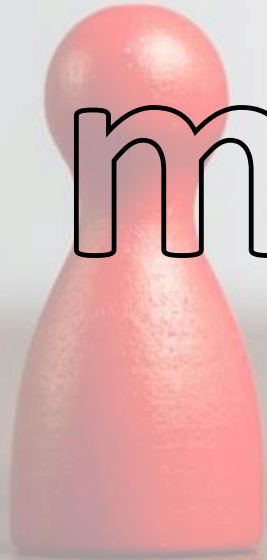
This article has been retracted at the request of the Editor-in-Chief. Post-publication, the journal has identified the presence of one or more references that cannot be verified, as indicated below:

References [1,2,3,4,5,7,8,11,12,13,16,18,19,23,25,26,27] have mismatched article titles, journal titles, author lists, and DOIs. Reference

[6,9,20,21,22] appear to be non-existent.

The journal reached out to the authors for an explanation, but they failed to provide a satisfactory response. The Editor has lost confidence in the results and conclusions of the article and has determined it should be retracted. The journal apologises for not having identified the Generative-AI misuse during the review process and for any resulting inconvenience. This decision aligns with the Committee on Publication Ethics (COPE) guidelines and Elsevier's policies.

AI misconduct





The MATTER

Brief

เมื่อ AI สร้างข้อมูลปลอมในงานวิชาการ

มหาวิทยาลัยในฮ่องกง ค้นพบว่า

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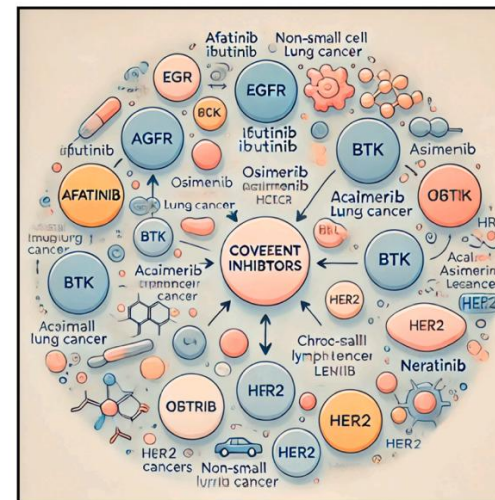
20 รายการ จากทั้งหมด 61 รายการ

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หวั่นทักษะ
ทำงานถูกทำลาย



ภาพจาก AI image creator



European Journal of Medicinal Chemistry Reports 12 (2024) 100217



Contents lists available at [ScienceDirect](https://www.sciencedirect.com)

European Journal of Medicinal Chemistry Reports

journal homepage: www.editorialmanager.com/ejmcr/default.aspx



Advancements, challenges, and future frontiers in covalent inhibitors and covalent drugs: A review



Muhammad Salman Hameed^{a,*}, Hongxuan Cao^a, Li Guo^b, Lei Zeng^a, Yanliang Ren^{a,**}

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CORRESPONDENCE

Retraction: Bronchial Casts from Inhalation of Forest-Fire Smoke. N Engl J Med 2026;394:1634.

TO THE EDITOR: We were unaware of *Journal* policies on image manipulation and had altered our submission by using an artificial intelligence (AI) tool to move the ruler to the top of the image. We therefore wish to retract our image and case report.¹

Yuling Wang, M.Med.,¹ and Xiangdong Mu, M.D.²

¹Daxing Teaching Hospital, Capital Medical University, Beijing;

²Beijing Tsinghua Changgung Hospital, Beijing.

Editor's note: Authors are required to disclose any use of AI tools and any changes made to images. Please consult our editorial policy at NEJM.org for details regarding the use of AI-assisted technology (<https://www.nejm.org/about-nejm/editorial-policies>).

This letter was published on April 29, 2026, at NEJM.org.

1. Wang Y, Mu X. Bronchial casts from inhalation of forest-fire smoke. N Engl J Med 2026;394:1634.

DOI: 10.1056/NEJMc2605962

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The roots of formal education in Thailand can be traced back to the 13th century with the establishment of Buddhist temples, which served as centers of learning. Monks were the primary educators, teaching religion, philosophy, language, and arts. This system continued until the late 19th century when King Chulalongkorn (Rama V) initiated significant educational reforms to modernize the country and reduce foreign influence. He established the first Western-style schools and introduced compulsory primary education in 1921, marking the beginning of a state-sponsored education system.

Your Text is AI/GPT Generated



The roots of formal education in Thailand can be traced back to the 13th century with the establishment of Buddhist temples, which served as centers of learning. Monks were the primary educators, teaching religion, philosophy, language, and arts. This system continued until the late 19th century when King Chulalongkorn (Rama V) initiated significant educational reforms to modernize the country and reduce foreign influence. He established the first Western-style schools and introduced compulsory primary education in 1921, marking the beginning of a state-sponsored education system.



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Contents lists available at ScienceDirect

Surfaces and Interfaces

journal homepage: www.sciencedirect.com/journal/surfaces-and-interfaces

The three-dimensional porous mesh structure of Cu-based metal-organic-framework - aramid cellulose separator enhances the electrochemical performance of lithium metal anode batteries

Manshu Zhang^{a,1}, Liming Wu^{a,1}, Tao Yang^b, Bing Zhu^a, Yangai Liu^{a,*}

^a Beijing Key Laboratory of Materials Utilization of Nonmetallic Minerals and Solid Wastes, National Laboratory of Mineral Materials, School of Materials Science and Technology, China University of Geosciences, Beijing 100083, China

^b College of Materials & Environmental Engineering, Hangzhou Dianzi University, Hangzhou 310036, China

ARTICLE INFO

Keywords:

Lithium metal battery

Lithium dendrites

CuMOF-ANFs separator

ABSTRACT

Lithium metal, due to its advantages of high theoretical capacity, low density and low electrochemical reaction potential, is used as a negative electrode material for batteries and brings great potential for the next generation of energy storage systems. However, the production of lithium metal dendrites makes the battery life low and poor safety, so lithium dendrites have been the biggest problem of lithium metal batteries. This study shows that the larger specific surface area and more porous structure of Cu-based metal-organic-framework - aramid cellulose (CuMOF-ANFs) composite separator can help inhibit the formation of lithium dendrites. After 110 cycles at 1 mA/cm², the discharge capacity retention rate of the Li-Cu battery using the CuMOF-ANFs separator is about 96 %. Li-Li batteries can continuously maintain low hysteresis for 2000 h at the same current density. The results show that CuMOF-ANFs composite membrane can inhibit the generation of lithium dendrites and improve the cycle stability and cycle life of the battery. The three-dimensional (3D) porous mesh structure of CuMOF-ANFs separator provides a new perspective for the practical application of lithium metal battery.

1. Introduction

Certainly, here is a possible introduction for your topic: Lithium-metal batteries are promising candidates for high-energy-density rechargeable batteries due to their high electrode potentials and high theoretical capacities [1,2]. However, during the cycle, dendrites forming on the lithium metal anode can cause a short circuit, which can affect the safety and life of the battery [3–6]. Therefore, researchers are indeed focusing on various aspects such as negative electrode structure [10], electrolyte additives [11,12], SEI film construction [13,14], and collector modification [15] to inhibit the formation of lithium dendrites. However, using a separator with high mechanical strength and chemical stability is another promising approach to prevent dendrites from infiltrating the cathode. By incorporating a separator with high mechanical strength, it can act as a physical barrier to impede the growth of dendrites. This barrier can withstand the mechanical stress exerted by the dendrites during battery operation, preventing them from reaching the cathode and causing short circuits or other safety issues. Moreover,

chemical stability of the separator is equally important as it ensures that the separator remains intact and does not react or degrade in the presence of the electrolyte or other battery components. A chemically stable separator helps to prevent the formation of reactive species that can further promote dendrite growth. Researchers are actively exploring different materials and designs for separators to enhance their mechanical strength and chemical stability. These efforts aim to create separators that can effectively block dendrite formation, thereby improving the safety and performance of lithium-ion batteries. While there are several research directions to address the issue of dendrite formation, using a separator with high mechanical strength and chemical stability is an important approach to prevent dendrites from infiltrating the cathode and ensure safe operation of lithium metal batteries.

Several types of separators currently used in research include nanoporous polymer separators [16], ceramic composite separators [17], nanofiber separators [18–20], and metal-organic skeleton (MOF) separators [21–24]. While these separators have shown some ability to inhibit the growth of lithium dendrites, they still have some drawbacks,

This article has been retracted at the request of the Editors-in-Chief and Authors.

The journal was alerted to the presence of duplicate images appearing as Figures 1 and 2 of this article and Figures 1 and 2 of International Journal of Hydrogen Energy, Volume 59 (2024), Pages 263–271, <https://doi.org/10.1016/j.ijhydene.2024.01.283>.

An investigation by the journal confirmed substantial duplication of text and image data between these two articles that were submitted and published in close succession. All authors of the International Journal of Hydrogen Energy article also authored the Surfaces and Interfaces article.

In addition, there are concerns that the authors appear to have used a Generative AI source in the writing process of the paper without disclosure, which is a breach of journal policy.

The journal sincerely regrets that these issues were not detected during the manuscript screening and evaluation process and apologies are offered to readers of the journal.

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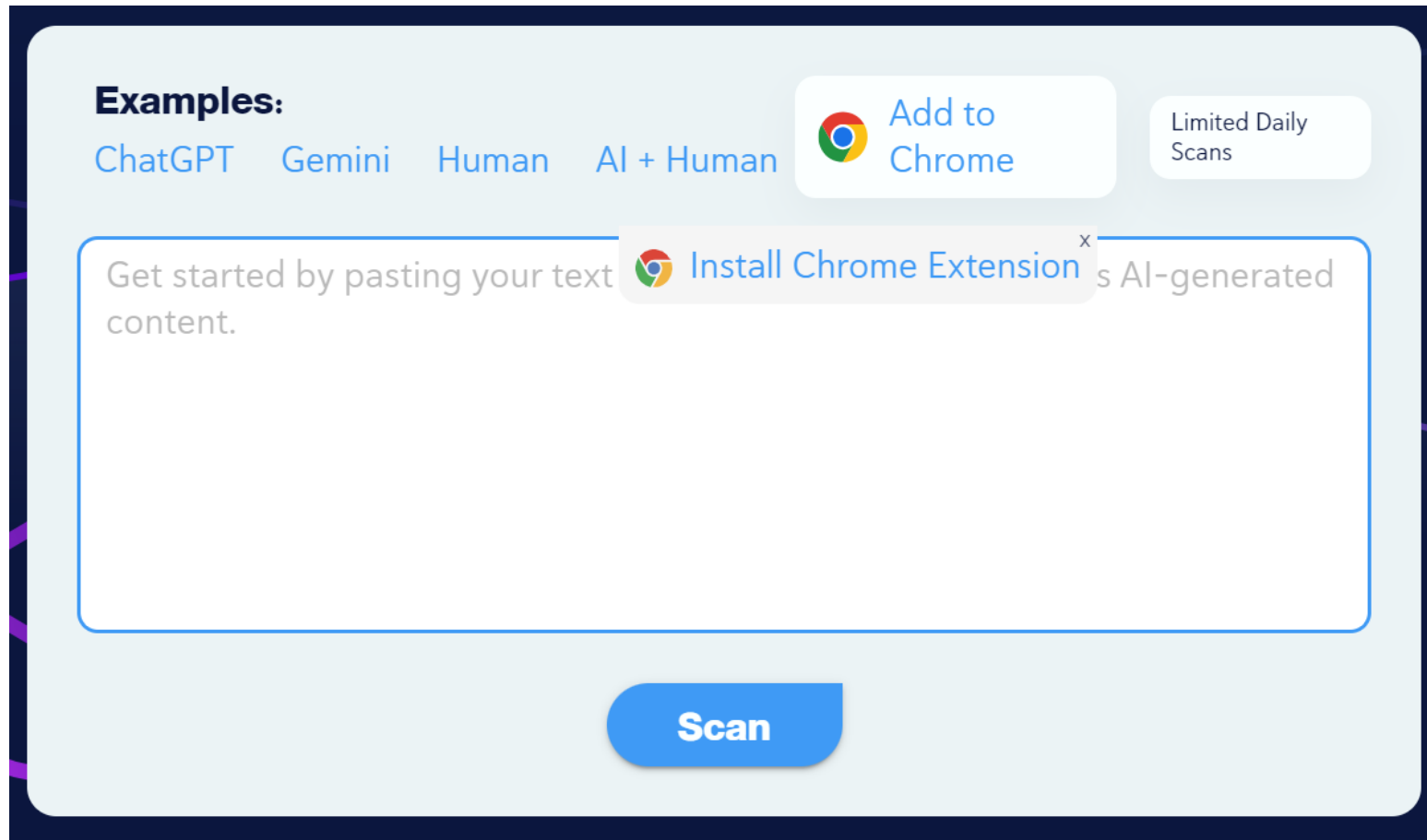
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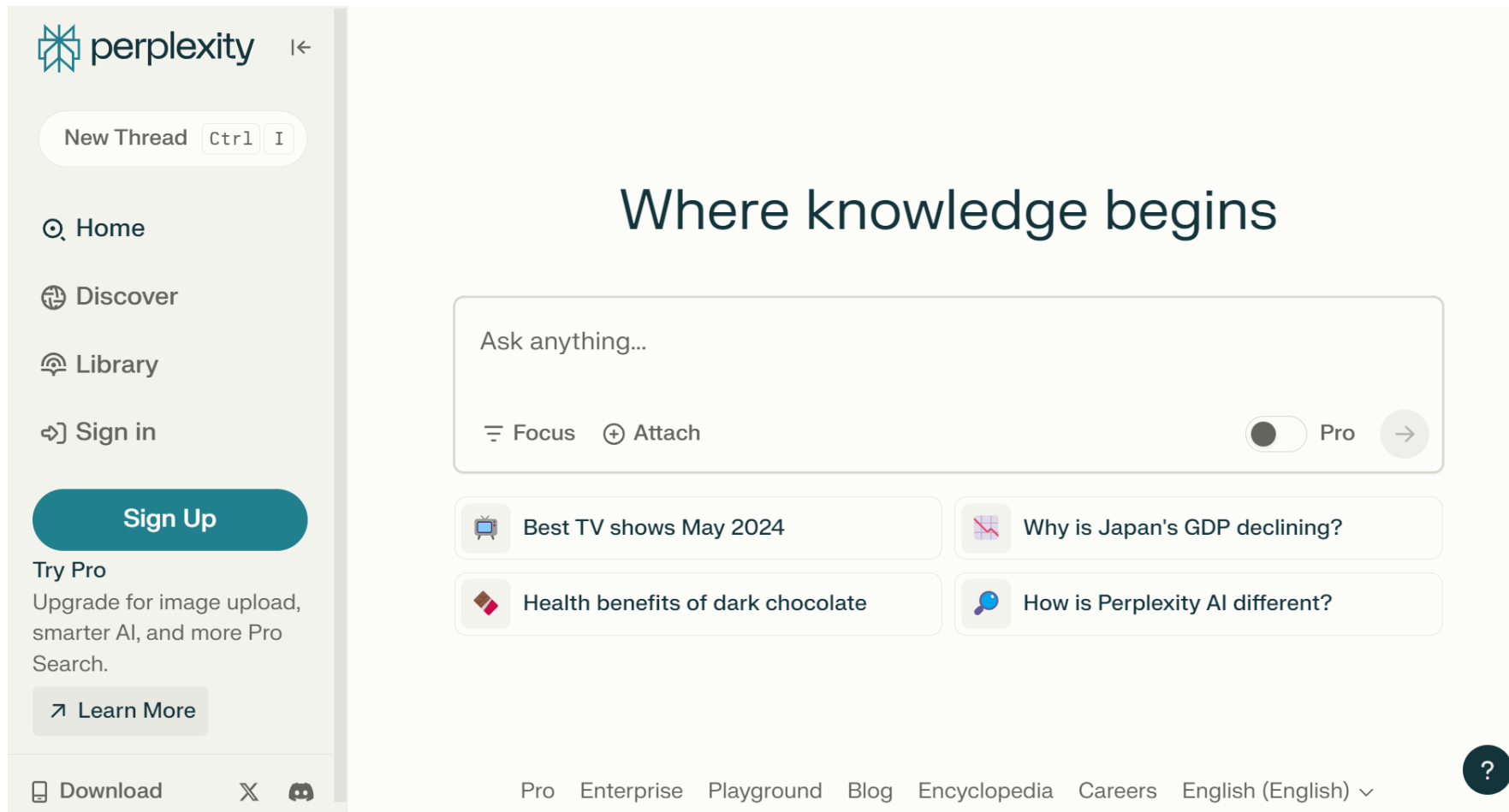
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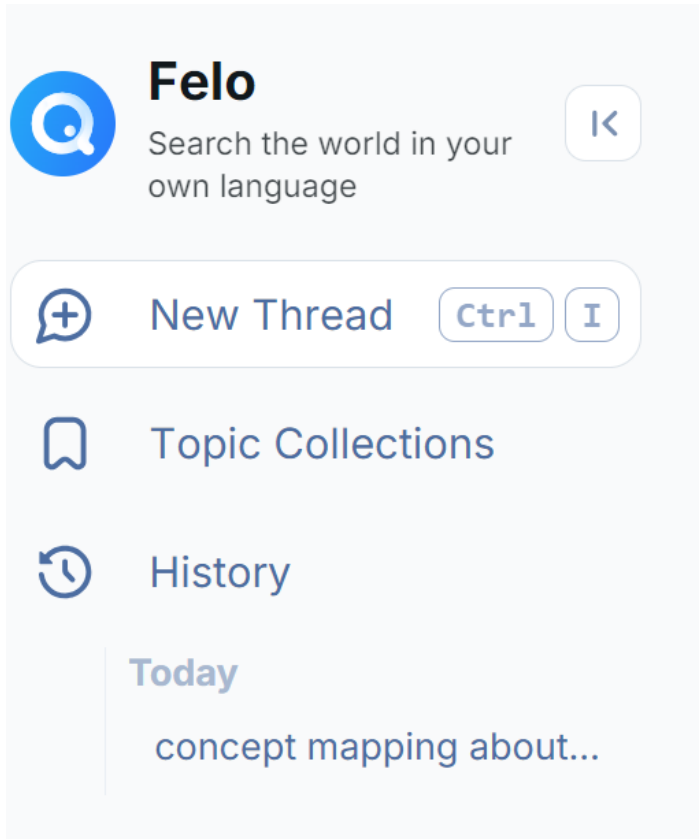


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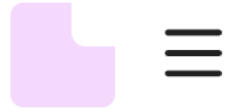
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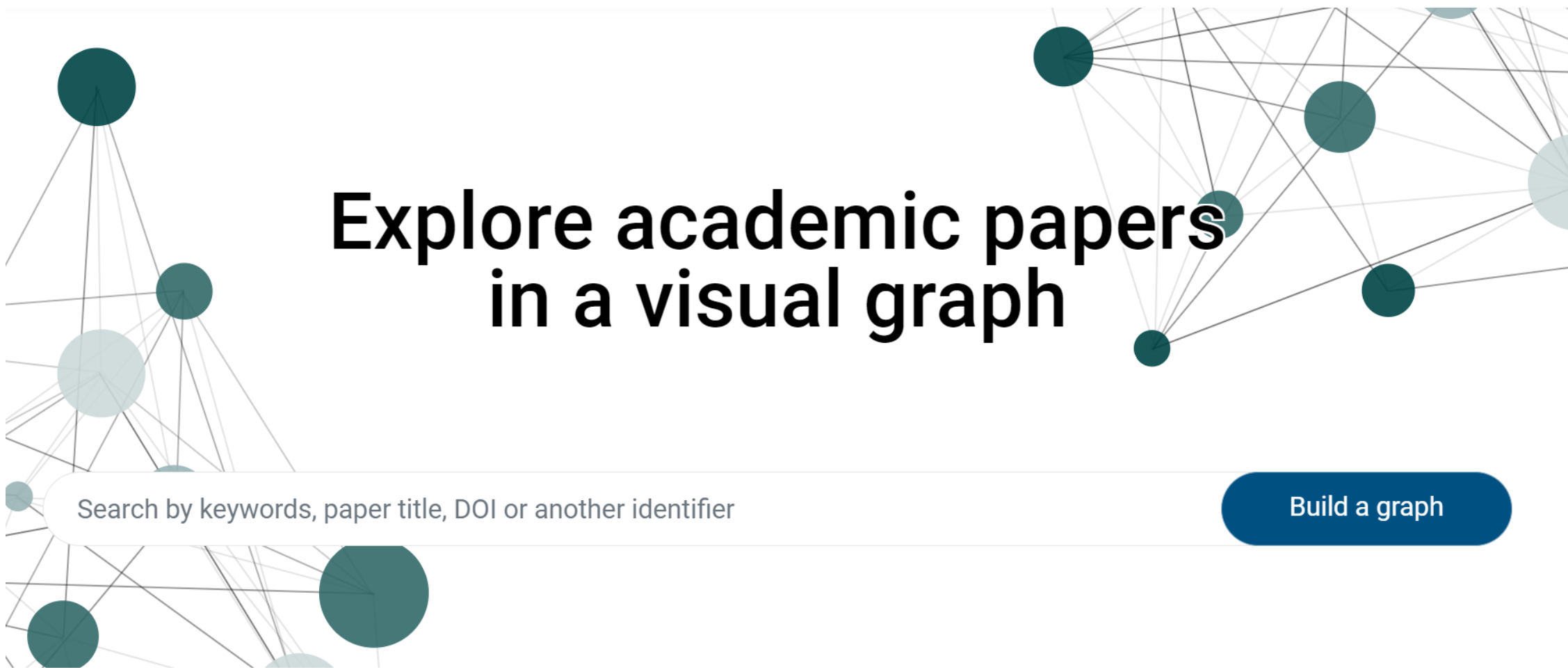


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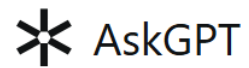
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DECLARATION OF GENERATIVE AI AND AI-ASSISTED TECHNOLOGIES IN THE WRITING PROCESS

During the preparation of this work, the authors used ChatGPT in order to improve language only. After using this tool, the authors reviewed and edited the content as needed and take full responsibility for the content of the publication.

The authors thank the members and staff of the Department of Clinical Nutrition of The Second Affiliated Hospital of Soochow University who contributed to this letter.

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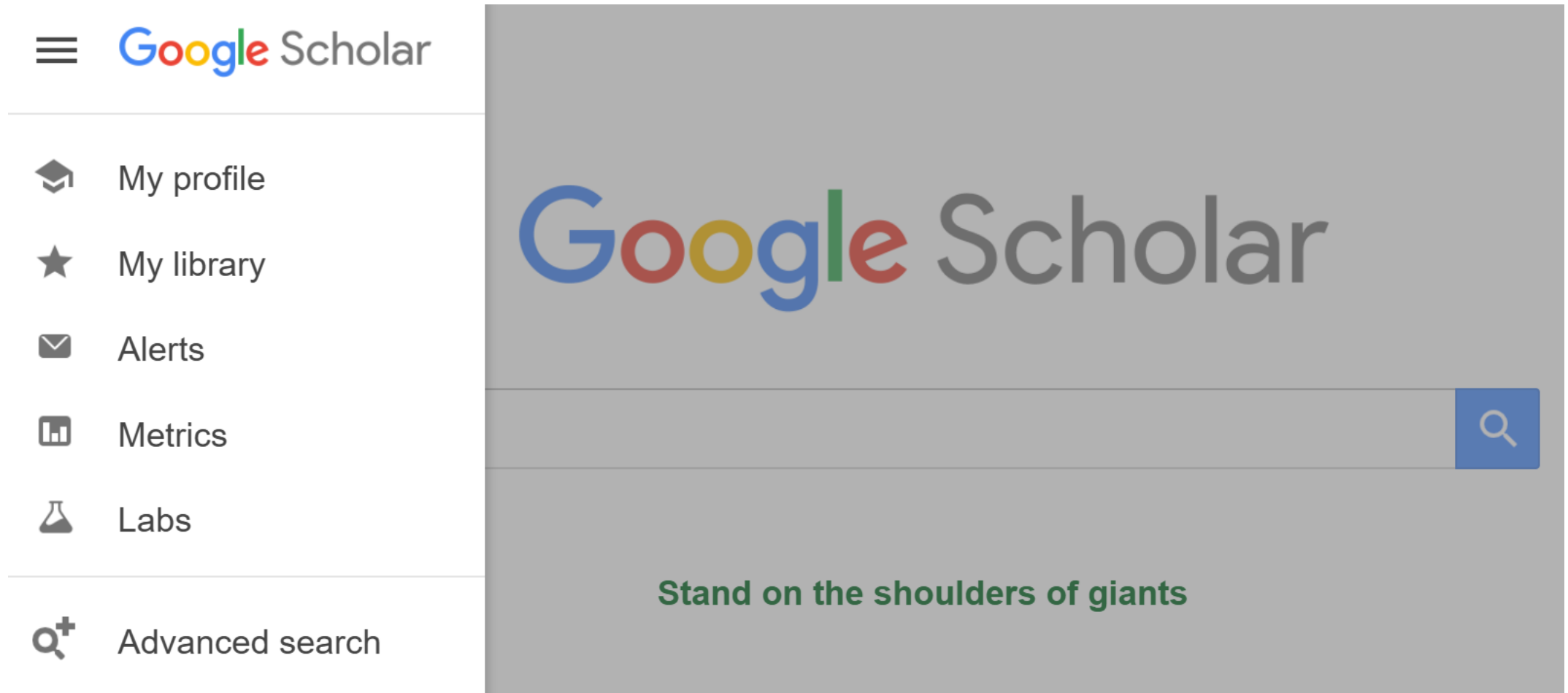
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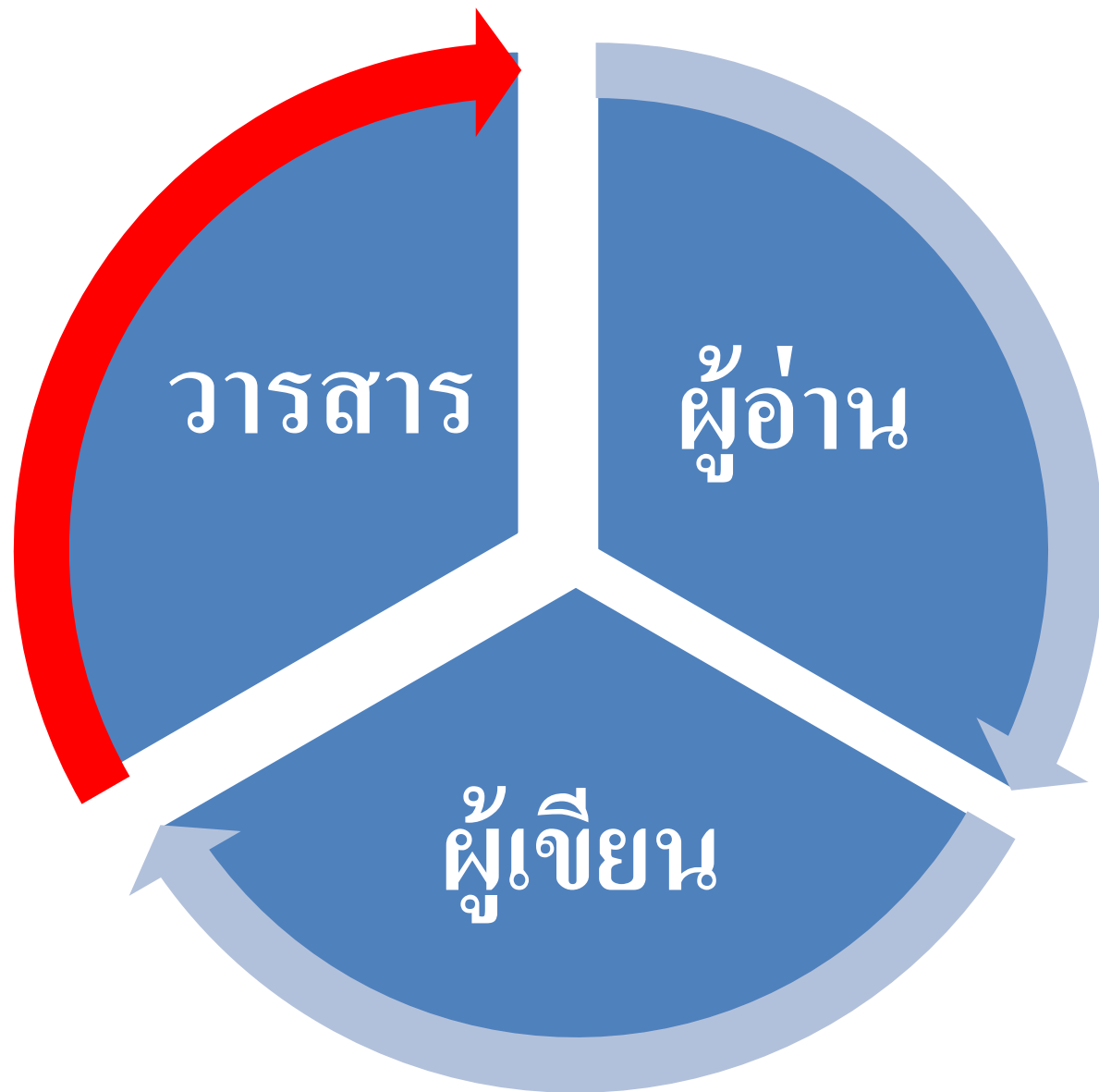
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Manuscript Acceptance Letter

30th May, 2022

Dear Authors

Based on the recommendations from the peer review, I am delighted to inform you that your following manuscript has been accepted for possible publication in "Humanities, Arts and Social Sciences Studies (HASSS) journal published by Silpakorn University, Thailand, ISSN 2630 - 0079 (Online)" in the issue, Volume 23, Number 1 (January - April), 2023.

Title: [REDACTED]
[REDACTED]
Authors: [REDACTED]
[REDACTED]
[REDACTED]
Status: Accepted

Please kindly be informed.

Yours faithfully,

(Associate Professor Prachai Prasanna, Ph.D.)
Associate Editor

ACCEPTANCE LETTER

Date: 24 July 2024

Manuscript ID: [REDACTED]

Dear Author(s): [REDACTED]

We are delighted to inform you that our scientific and review committee approved your article titled [REDACTED] accepted for publication in Volume 24 Issue 2 (September-December 2024) of Humanities, Arts and Social Sciences Studies.

I believe our collaboration will help accelerate good knowledge creation and sharing one step further. Please do not hesitate to contact me if you have any further questions.

Best Regards,
Editor in Chief
Dr. Kanchana Attaviriyapong
Silpakorn University
Humanities, Arts and Social Sciences Studies



LETTER OF ACCEPTANCE

Date: 06 April, 2023

Dear Authors: [REDACTED]

Subject: Acceptance of Manuscript for Publication

We are pleased to inform you that your manuscript titled [REDACTED] Paper ID: [REDACTED] has been accepted for publication in Humanities, Arts and Social Sciences Studies (HASSS).

Your article underwent extensive peer review, and the reviewers and editorial board determined it to be of high quality and relevant to our readership. We feel that your study will make an important addition to the discipline.

Humanities, Arts and Social Sciences Studies (HASSS) is indexed in the Scopus, Thai Journal Citation Index Core (TCI Core) Database, ASEAN Citation Index (ACI), Google Scholar, Crossref.

Congratulations again on the acceptance of your paper. We look forward to having your work published in our publication and continuing to contribute to the academic community.

Thank you for selecting the Humanities, Arts and Social Sciences Studies (HASSS) as the venue for publishing your research findings.

Best Regards,

Kanchana Attaviriyapong
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Research article

Bridging AI and Human Cognition: The Role of Explainability in Healthcare, Social Media, and Insurance

S. Lakshmi Narasimhan^a

^a Senior Technical Lead, Incedo Tech, Plano, TX, USA

ARTICLE INFO

Keywords:
Cognition
Working memory
XAI
Intellect
Personality
Context

ABSTRACT

Explainable AI (XAI) is increasingly recognized as a crucial component of ethical, professional, and commercial AI applications, particularly in complex or proprietary 'black-box' systems where decision-making processes remain opaque. However, the perceived necessity of XAI varies depending on individual cognitive traits, personality factors, and the personal relevance of AI-driven decisions. This study explores how these factors influence the demand for AI transparency. A total of 215 participants (129 female) took part in an online experiment measuring objective working memory capacity and self-reported cognitive ability using the Intellect facet of the Big Five Personality traits. Participants were presented with three AI scenarios of varying personal relevance: (i) AI-assisted skin cancer detection, (ii) algorithm-driven social media personalization, and (iii) AI-determined car insurance pricing. The results demonstrated that individuals exhibited a greater demand for XAI in scenarios where the stakes were higher (health and financial costs > social media curation). Interestingly, while working memory capacity did not correlate with XAI preference, self-reported Intellect showed a mild positive relationship with the need for explanations in the insurance scenario. These findings suggest that personal investment plays a significant role in determining expectations for AI transparency. This study contributes to the growing discourse on XAI by offering new insights into how cognitive and psychological factors shape trust, comprehension, and reliance on AI-driven decisions across different domains.

Research article

Working memory and the need for explainable AI – Scenarios from healthcare, social media and insurance

M. Liebherr^{a,b,*}, E. Gößwein^{a,b}, C. Kannen^c, A. Babiker^d, S. Al-Shakhsi^d, V. Staab^a, B.J. Li^e, R. Ali^d, C. Montag^c

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ARTICLE INFO

Keywords:
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ABSTRACT

Explainable AI (XAI) is considered an important feature of AI systems that is required for professional, ethical and commercial reasons. XAI is particularly needed in AI systems that remain relatively closed 'black-box', on how to make decisions whether for complexity or commercial sensitivity. Still, many factors play an important role on whether people perceive a need for XAI. The personal relevance of the AI system might play a role, but also individual differences in personality traits or cognitive functions. In order to test these assumptions, 215 participants (129 female) underwent an online experiment testing their objective working memory capacity and self-reported Intellect facet of the Big Five Personality traits (as a proxy for self-assessed cognitive capacity). Further, all participants were presented three AI systems scenarios of relatively different degrees of (personal) relevance and, hence, personal investment: skin cancer detection (i), the personalization of social media feeds (ii), and the amount to pay for a car insurance (iii). We observed that people reported a higher need for XAI in scenarios where they were more personally invested (health, payment for insurance > social media); for significant differences between these scenarios see the result section. Interestingly, working memory capacity was not associated with XAI needs across the three domains, but self-reported Intellect showed a mild positive association with need for an AI explanation in the context of the insurance story. The present study represents a first attempt to investigate objective working memory capacity in the context of need for XAI. Beyond that, the study indicates that personal investment is crucial for determining the need for XAI.

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