Collaborative discussion 2

Legal and ethical views of ANN application

My initial post:

ChatGPT and other AI-based chatbots have become ubiquitous in recent years. From students to scholars to professionals in the creative industries, most people have at least tried using a large language model to speed up the working process, or to assist with structuring new inputs and ideas for a specific task.

Especially in education, personnel and administration are running behind their students when it comes to the use of AI tools. And while most teachers support the well-informed and responsible use of AI in education, the education sector is taking its time in implementation of guidelines and the provision of training for educators (Tyton Partners, 2023).

Main concerns being raised are the possible dependency on AI language models, as well as the proliferation of wrong and even harmful information through opaque practices and training content in the development of these models (Barman et. al, 2024). Research has shown for example that generally people cannot distinguish AI-created content from human-created content and that AI-created news were deemed even more credible in comparison to human-written ones (Zhou et.al, 2023).

A major factor is also the validation of information sources regarding robo-writers, as with models like ChatGPT there is no information on which sources the language model is using to retrieve its information.

In order to create trustworthy AI-based chatbots and language models, it will be necessary for developers and providers to grant an acceptable standard of transparency on which data was used to train the model in order to understand its underlying faults, biases and decision making and to avoid creating a black box .

References:

Tyton Partners. (2023). *GenAI in Higher Education: Fall 2023 Update - Time for Class Study*. Retrieved from https://tytonpartners.com/app/uploads/2023/10/GenAI-IN-HIGHER-EDUCATION-FALL-2023-UPDATE-TIME-FOR-CLASS-STUDY.pdf

Barman, D., Guo, Z., & Conlan, O. (2024). The Dark Side of Language Models: Exploring the Potential of LLMs in Multimedia Disinformation Generation and Dissemination. *Machine Learning with Applications*, 16, 100545. ISSN 2666-8270. DOI: 10.1016/j.mlwa.2024.100545. Link: https://www.sciencedirect.com/science/article/pii/S2666827024000215

Zhou, J., Zhang, Y., Luo, Q., Parker, A. G., & De Choudhury, M. (Year). "Synthetic Lies: Understanding AI-Generated Misinformation and Evaluating Algorithmic and Human Solutions." *Journal Name*, Volume(Issue), Page Range. DOI: https://doi.org/10.1145/3544548.3581318

Peer post 1:

By Danilo Claudio De Sousa

According to Neumann el al (2022), there are two types of Artificial intelligence, the weak AI which is not capable of resolving issues independently, and self-ware or conscious AI also, know as AI singularity, that is capable to outperform human intelligence. Salvagno at el (2023) stated, for now the process summarising articles and compose scientific paper of using chat-bots and AI needs a human being specialised in the discipline revision to guarantee correctness, consistency, and authenticity. Similarly, it supports professors evaluating and rating student performance (Ahmad at el, 2022). Something that used to be a time-consuming tasks can be done automatically and in a fraction of the time it used to take.

On the other hand, as per Fyfe (2022), raised a extremely relevant question, whether a student uses AI assistance to compose his or her final paper should be considered cheating or not. According to Eke (2023), it is a breach the fundamental basis academic integrity if a student utilises AI to write an article or any other kind of academic paper. To avoid such issues, Hosseini at el (2023) publish an article that recommended the acknowledge and to list the use of AI in the writing process as reference, supported by the fact that not so long ago scientists made use of computer based programs to examine or transform images like Photoshop and, to explore and manipulate data, as example SPSS.

References

Neumann, O., Guirguis, K. & Steiner, R. (2022) Exploring artificial intelligence adoption in public organizations: a comparative case study. *Public Management Review*. DOI: https://doi.org/10.1080/14719037.2022.2048685

Salvagno, M., Taccone, F.S. & Gerli, A.G. (2023) Can artificial intelligence help for scientific writing?. *Critical Care* 27(1):75. https://doi.org/10.1186/s13054-023-04380-2

Ahmad, S.F., Alam, M.M., Rahmat, M.K., Mubarik, M.S. & Hyder, S.I. (2022) Academic and Administrative Role of Artificial Intelligence in Education. *Sustainability* 14(1): 1101. DOI: https://doi.org/10.3390/su14031101

Fyfe, P. (2023) How to cheat on your final paper: Assigning AI for student writing. *AI & Society* 3(1):1395–1405. DOI: https://doi.org/10.1007/s00146-022-01397-z

Eke, D. O. (2023) ChatGPT and the rise of generative AI: Threat to academic integrity?.Journal of Responsible Technology 13(1):100060. DOI: https://doi.org/10.1016/j.jrt.2023.100060

Hosseini, M., Rasmussen, L. M. & Resnik, D. B. (2023) Using AI to write scholarly publications. Accountability in Research. DOI: https://doi.org/10.1080/08989621.2023.2168535

My response:

Thank you for this post, Danilo.

I think the point of human oversight which you mentioned is crucial when using any AI-based tool or software. Even when using expert systems which have been specifically designed and trained for a certain topic or field, human expertise in ensuring accuracy, relevance and addressing potential ethical or legal concerns with the content is key. Recent research has shown most productivity gains by humans and AI working together, enhancing each other's strengths (Wilson & Daugherty, 2018).

Another topic currently debated around the use of AI in academic and professional work deals with the subject of intellectual ownership and plagiarism (Thorp, 2023). Clear attribution of content and ideas and acknowledgment of sources when incorporating information from external sources remains important when using AI-based tools to ensure academic integrity.

Concerning the widespread use of AI tools and large language models the term "infodemic" has been coined, refering to the ability of such models to create and disseminate huge quantities of text and information about a topic and thus potentially creating a flood of misinformation (De Angelis et. al, 2023).

References:

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Thorp, H. H. (2023). "ChatGPT is Fun, but Not an Author." Science, 379(313). DOI: 10.1126/science.adg7879

De Angelis L, Baglivo F, Arzilli G, Privitera GP, Ferragina P, Tozzi AE, Rizzo C. ChatGPT and the rise of large language models: the new AI-driven infodemic threat in public health. Front Public Health. 2023 Apr 25;11:1166120. doi: 10.3389/fpubh.2023.1166120. PMID: 37181697; PMCID: PMC10166793.

Wilson, H. J., & Daugherty, P. R. (2018). "Collaborative Intelligence: Humans and AI Are Joining Forces." *Harvard Business Review*.

Peer post 2:

By Simon Egli

Generative AI, exemplified by ChatGPT, presents complex challenges in authorship, quality, ethics, and social impact (Hutson, 2021). Currently, AI-generated content is considered public domain under US and EU copyright laws due to the absence of AI's legal authorship (Smits & Borghuis, 2022). However, it is equally unclear if humans can claim authorship of AI-generated works, creating a potential risk of plagiarism due to the uncertain degree of independent intellectual effort (Bisi et al., 2023).

These legal ambiguities require urgent clarification. Beyond copyright concerns, a myriad of ethical and societal risks, encompassing social justice, individual needs, culture, and environmental impacts, must be carefully assessed and, when necessary, legally mitigated (Stahl & Eke, 2023).

Conversely, a broad spectrum of social and ethical benefits exists, spanning collective human identity, well-being, technology's role, beneficence, sustainability, health, autonomy, animal rights, social support, labour market, and financial impact (Stahl & Eke, 2023).

In concrete terms, AI could enable individually tailored content that can only be presented once and thus take into account the concrete needs of the individual (Smits & Borghuis, 2022).

However, current research highlights AI's shortcomings, particularly in logical argumentation, compared to human authors (Ma et al., 2023; Su et al., 2023).

In conclusion, despite remarkable results, GPT models remain tools rather than authors, needing both the legal basis for authorship claims and the ability to match human quality consistently. Given AI's rapid evolution, policymakers must promptly address the open questions. In addition, low-risk handling of AI should be trained.

References:

Bisi, T., Risser, A., Clavert, P., Migaud, H. and Dartus, J. (2023) What is the rate of text generated by artificial intelligence over a year of publication in Orthopedics & Traumatology: Surgery & Research? Analysis of 425 articles before versus after the launch of ChatGPT in November 2022. Orthopaedics & Traumatology: Surgery & Research, p.103694.

Hutson, M. (2021) Robo-writers: the rise and risks of language-generating AI. Nature, 591(7848), pp.22-25.

Ma, Y., Liu, J., Yi, F., Cheng, Q., Huang, Y., Lu, W. and Liu, X. (2023) AI vs. human–differentiation analysis of scientific content generation. arXiv preprint arXiv, 2301, p.10416.

Smits, J. and Borghuis, T. (2022) Generative AI and Intellectual Property Rights. In Law and Artificial Intelligence: Regulating AI and Applying AI in Legal Practice (pp. 323-344). The Hague: TMC Asser Press.

Stahl, B.C. and Eke, D. (2023) The ethics of ChatGPT–Exploring the ethical issues of an emerging technology. International Journal of Information Management, 74, p.102700.

Su, Y., Lin, Y. and Lai, C. (2023) Collaborating with ChatGPT in argumentative writing classrooms. Assessing Writing, 57, p.100752.

My response:

Hello Simon,

it is great that you picked up the topic of authorship and quality in AI. It is a currently much discussed topic, as teachers and educators fear students

relying on AI models to do the majority of their work rather than for assisting them in a productive and academically sound way.

The proper and responsible use of AI tools should be an integral part of education, given the rapid advance of AI and its proliferation in all areas of life. Students and users in general should be aware of the potential faults and shortcomings of AI-produced content versus that produiced by human experts. Education on AI and its use in education should focus on addressing both benefits and risks, understanding the ethical and legal dimensions and teaching academic integrity (Partovi & Yongpradit, 2024).

Broadly speaking, every tool is only as good or ethical as their users. And learning how to use AI-based models by understanding how they work and the possible implications are key for ensuring that they are a useful assistive tool rather than a potentially damaging black box.

References:

World Economic Forum. (2024, January). "AI Guidance in School: Responsible Use in Education." WEF Agenda. Retrieved from https://www.weforum.org/agenda/2024/01/ai-guidance-school-responsible-use-in-education/

My summary post:

As generative AI and large language models are becoming ubiquitous, so are the questions and considerations regarding their use.

One of those aspects is the ownership of AI-created content and work, as well as questions concerning intellectual properties of the data which goes into training AI models. For example, if an AI is trained on copyrighted material, what happens to the content that companies are creating for

their customers using this AI model? This is especially of importance to businesses using generative AI in their work process (Appel et. Al, 2023).

Another consideration is the question of accuracy of results provided by AI language models. Many companies, including OpenAI, do not disclose the training data used in creating their AI models and thus make it hard to decode and understand faulty or even harmful data sources influencing the algorithms (Barr, 2023).

Many experts and researchers therefore call for explainable and transparent AI, especially for the deployment of AI applications whose outcomes and decision-making greatly influences people. Explainable AI allows those affected to understand how the AI model arrives at the conclusion and results provided by giving background about training data and methods, the development and deployment process and underlying decision-making factors (OECD AI Policy Observatory, 2024).

Finally, as AI language models and generative AI are becoming more widely used, it is paramount that the appropriate and effective use and understanding of these tools become an integral part of education. Students and teachers alike need to be aware of the possible biases, faults and disinformation AI models can create, how the quality and composition of training data influences the results and outcomes of models and the importance of human oversights and expert knowledge to work accurately and effectively supported by AI.

References:

Appel, G., Neelbauer, J., & Schweidel, D. A. (2023). "Generative AI Has an Intellectual Property Problem." *Harvard Business Review*.

Barr, K.(2023). "GPT-4 Is a Giant Black Box and Its Training Data Remains a Mystery." *Gizmodo*. Retrieved from https://gizmodo.com/chatbot-gpt4-open-ai-ai-bing-microsoft-1850229989

Organization for Economic Co-operation and Development. (2024). Transparency and Explainability." *OECD AI Principles Dashboard*. Retrieved from https://oecd.ai/en/dashboards/ai-principles/P7