

AI at Doorstep: ChatGPT and Academia

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Homo Sapiens through ages of adventure coupled with learning over time conquered multiple milestones to decode the mysteries of life to comfort themselves and evolve in multiple technological dimensions. The pace to automate, mechanise, and mathematise in recent times has revolutionised human capabilities in every venture and domain of life. The robotic arms, to interplanetary space travels by pilotless space travels, and mechanised algorithmic strategies overtaking the dexterous human tasks have transmuted the ways the humans have ever survived on this planet. Undoubtedly, artificial intelligence (AI) is climbing to acme, and now we are experiencing AI involvement in most job markets including the healthcare corridors. ChatGPT is pressingly an open access AI tool with ultra-edge algorithm defining capability incorporating the relevant information about any given theme from various internet-based search engines allowing the optimal use for every profession. GPT stands for Generative Pretrained Transformer which allows access to common users to utilise multiple knowledge-bases, describe the latest scientific discoveries and also allow academic requirements in the real-time.¹

AI and medical academia are becoming a debatable subject among educated minds. Most game-changer developments and discoveries since the invention of time allowed man to judge various pros and cons without a clear realisation of the long-term sequelae.² Not all innovations have helped the mankind and *vice versa*. AI has been growing overtime with every second, adding to its grey matter and muscles to prevail but the true aftermath in terms of victory vs. defeat is yet to be determined. Before discussing the down-stream actions resulting from ChatGPT, it must be recognised that the insinuating carpet fertility created by the web in terms of Google Scholar, PubMed, and various gene banks along with handy internet access is now moving outside the planetary bounds.³ The preliminary revolution portrayed by quality search engines not just quickened the research, but also added to the quality of methodology, exploring and data mining. In addition, text written conventionally by authors has been including services for artwork, professional editing, bibliographic, biostatistical and bioinformatic software for understanding various academic or research needs, without being acknowledged.⁴

Therefore, ChatGPT in continuum is just another leap forward for wholesome AI. Evolving ChatGPT allows quality, speed, and relevancy in medical search within predefined ethical limits by obviating any bias. Alongside, the AI tool helps catalog metadata outputs with quality control checks, obviate language bias, and enhance academia productivity.⁵ Finally, the author believes that ChatGPT as chatbot will finally become a professional educator due to the strict adherence to method, non-biased evaluation and providing a perfect reply to student's query. ChatGPT, being a human invention, is criticised for racism due to programming bias, far from being perfected, supersede conventional poets, novelist and medical writers to software engineers and similar jobs which follow some algorithm.⁶ Medical science will be no exception where these rise of machines and AI tools will modify the current functioning in unprecedented ways. Superior AI generations will diagnose, operate, monitor patients with better accuracy and most importantly, with precision, thus shifting lawsuits to AI designers and software experts, who will follow algorithms to reduce cost, and by adding precision, it will be able to exactly define individualised pharmacogenomics for the best medical outcomes.⁷ So why ChatGPT, chatbots and other ultra AI tools will prevail? The simple reason is underpinned among us; as human species who can neither be perfect nor precise, we have biological needs, err a lot, have higher falsifying rates, have emotional challenges, can vary outputs in terms of performance. Due to human limitations, we can gradually show dependency on this first-generation AI software like mobiles, automated vehicles and habitual desire to create comfort. Human evolution gradually funnelled to advance in various scientific domains will still suffer by racism, domesticated lifestyle, differences in education, socioeconomic divides, technological divides, and hunger to grab power. There are valid concerns of illicit and unethical use of this robotic intelligence.⁸

Despite the provided pros, there are cons which need to be managed through balancing the use of man-created intelligence, thus mandating the development of ethical standards and regulatory legislature in academia.⁶ There must be a clear and transparent system to regulate the development and use of these smart devices / software including ChatGPT especially with equitable deployment over all continents without any divide between have and have-nots, both for the medical and non-medical use. Individuals, organisations and countries must conform to such regulations with equality principle within healthcare circles.⁹

Medicine, social sciences, and academia across the globe will ultimately be affected by ChatGPT and other AI modes where humans may have defining roles. With emergence of more intelligent next-generational tools, the ultimate role of human in job

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markets will decline. There is no doubt that the humans can display more intelligence to command AI as pets and tools to explore the deep-down mysteries of the universe and also the yet to be cured diseases by the use of tailor-made medical AI tools. Understandably, the current medical human market will squeeze but net healthcare outcomes can be cost-effective. More healthcare professionals should resort to biotechnological and medical AI tool related research and development for the betterment of human beings. The world as seen today will probably change with a lot of current-day fiction turning into reality. However, morality, legislature and personalised human preferences must not be overdone, and therefore stringent regulatory compliance will be needed to fine tune the application of any emerging AI-supported tool.¹⁰ The author also believes that human existence cannot be compromised by anybody but this extinction seems to be the greatest fear. Since human cannot accept human errors, thus the need of AI is great as it will neither err nor it can be suboptimal in performance. So, it is likely to replace the human kind, and hence man will be more in competition with the intelligent machines than with its own kind. Regulatory interventions including policy development must follow to manage the highlighted impacts of ChatGPT and other similar AI software in the budding future of technological advancements.

REFERENCES

1. Jalil S, Rafi S, LaToza TD, Moran K, Lam W. ChatGPT and software testing education: Promises & perils. *arXiv*; 2023 Feb 7. doi: arXiv.2302.03287.
2. Emma PG. Inventions and the creative process. *IEEE Micro* 2005; **25(3)**:96-5.
3. Gusenbauer M, Haddaway NR. Which academic search systems are suitable for systematic reviews or meta-analyses? Evaluating retrieval qualities of Google Scholar, PubMed, and 26 other resources. *Res Synth Methods* 2020; **11(2)**:181-217.
4. Perkel JM. The software that powers scientific illustration. *Nature* 2020; **582(7810)**:137-9. doi: 10.1038/d41586-020-01404-7.
5. Baidoo-Anu D, Owusu Ansah L. Education in the era of generative artificial intelligence (AI): Understanding the potential benefits of ChatGPT in promoting teaching and learning. Available from SSRN 4337484. 2023.
6. McGee RW. Is ChatGPT biased against conservatives? An empirical study. *Social Science Research Network*; 2023 Feb 15.
7. Rooson D, Chok J, Baskys A, Rooson MR. PGxKnow: A pharmacogenomics educational HoloLens application of augmented reality and artificial intelligence. *Pharmacogenomics* 2022; **23(4)**:235-45. doi: 10.2217/pgs-2021-0120.
8. Scherer MU. Regulating artificial intelligence systems: Risks, challenges, competencies, and strategies. *Harv JL & Tech* 2015; **29**:353.
9. Lund BD, Wang T, Mannuru NR, Nie B, Shimray S, Wang Z. ChatGPT and a new academic reality: Artificial Intelligence-written research papers and the ethics of the large language models in scholarly publishing. *J Assoc Information Sci Technol* 2023. Available from: arxiv.org/ftp/arxiv/papers/2303/2303.13367.pdf.
10. Rospigliosi PA. Artificial intelligence in teaching and learning: what questions should we ask of ChatGPT? *Interactive Learning Environments* 2023; **31(1)**:1-3.

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