




LETTER

A Response to: Letter to the Editor Regarding “The Use of ChatGPT to Assist in Diagnosing Glaucoma Based on Clinical Case Reports.”

Mohammad Delsoz · Hina Raja · Yeganeh Madadi · Anthony A. Tang ·
Barbara M. Wirostko · Malik Y. Kahook · Siamak Yousefi 

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Dear Editor,

We appreciate Antonio Yaghy and colleague’s engagement and thoughts regarding our recent article “The Use of ChatGPT to Assist in Diagnosing Glaucoma Based on Clinical Case Reports” [1]. They pointed out the following statement in our article “As ChatGPT may learn

from previous interactions, we recorded all responses based on our first enquiry of provisional and differential diagnosis” and mentioned that the current versions of ChatGPT are not capable of learning and remembering from previous interaction. We trust that the provided information will effectively address their inquiries and feedback.

ChatGPT, developed by OpenAI, has been enhanced with the capability of Reinforcement Learning from Human Feedback (RLHF) [2]. This technique involves incorporating human feedback into the model’s learning process to better align its responses with human expectations. RLHF allows the model to generate responses that take into account factors like accuracy, nuance, and style, resulting in improved performance and more contextually appropriate outputs [3]. The RLHF technique was first introduced by OpenAI and has been employed in various projects, including ChatGPT.

In terms of memory capabilities, OpenAI has been experimenting with adding a form of long-term memory to ChatGPT [4]. This feature allows ChatGPT to remember details from previous conversations, which can impact the responses to the future interactions. Users can explicitly instruct ChatGPT to remember queries, ask what it remembers, and even request to forget [4]. This memory feature is designed to evolve with user interactions and is not linked

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M. Delsoz · H. Raja · Y. Madadi · A. A. Tang ·
S. Yousefi (✉)
Department of Ophthalmology, Hamilton Eye
Institute, University of Tennessee Health Science
Center, 930 Madison Ave., Suite 471, Memphis, TN
38163, USA
e-mail: siamak.yousefi@uthsc.edu

B. M. Wirostko
John Moran Eye Center, University of Utah, Salt
Lake City, UT, USA

M. Y. Kahook
Department of Ophthalmology, University of
Colorado School of Medicine, Aurora, CO, USA

S. Yousefi
Department of Genetics, Genomics, and
Informatics, University of Tennessee Health Science
Center, Memphis, TN, USA

to specific conversations. It is important to note that while ChatGPT can remember details within a single chat session, it does not necessarily retain this information between sessions [4]. However, the ongoing efforts aim to enhance this capability that may lead to increased accuracy. In medicine, particularly ophthalmology, the precision and care in diagnosis and treatment is paramount, given the underlying sensitivity and complexity. Therefore, leveraging AI (artificial intelligence) tools like ChatGPT in this context demands a meticulous approach, ensuring each case is evaluated independently to uphold the accuracy and integrity vital to patient care and healthcare systems. By initiating each case in a new session, we minimized the influence of ChatGPT's RLHF and memory capabilities to maintain a clear and unbiased perspective essential for the rigorous demands of medical decision-making. This practice underscores the thoughtful integration of AI in enhancing healthcare outcomes while respecting the unique complexities of each patient's condition.

In conclusion, while ChatGPT's RLHF and experimental long-term memory capabilities offer significant potential for enhancing AI's role in healthcare, particularly in complex fields like ophthalmology, it is crucial to navigate these advancements with caution. The approach of initiating each medical case in a new session with ChatGPT ensures that the AI's current capabilities are utilized effectively without compromising the quality of patient care or being influenced by prior interactions. This method acknowledges the importance of accuracy, individual case assessment, and the avoidance of bias in medical diagnostics and treatment recommendations. As we continue to explore and integrate AI technologies like ChatGPT into healthcare, it is imperative to balance innovation with the ethical and practical considerations inherent in medical practice. By doing so, we can harness the benefits of AI to augment healthcare delivery while maintaining the high standards of patient care and safety that are the cornerstone of the medical profession.

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Declarations

Conflict of Interest. Mohammad Delsoz, Hina Raja, Yeganeh Madadi, Anthony A. Tang, and Malik Y. Kahook have nothing to disclose. Barbara M. Wirostko works for MyEyes LLC and provides consultation for Qlaris Bio and iCare. Siamak Yousefi received prototype instruments from Remidio, M&S Technologies, and Virtual Fields. He gives consultations to the InsihgtAEye and Enolink.

Ethical Approval. This article is based on a previously conducted study and does not contain any studies with human participants or animals performed by any of the authors.

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