About the use of conversational AI in the HIGO program

Decision of the HIGO Program steering committee (May 15, 2023)

Conversational AI such as ChatGPT, software from OpenAI which has recently been released to the public, has the potential to dramatically improve the efficiency of intellectual work by automatically performing tasks such as the collection and organization of information. Through dialogue with such AI there is also the chance of realizing new perspectives and ideas that have previously been overlooked. Much like the internet before it, generative AI (including conversational AI) is expected to become an indispensable technology.

Conversational AI generates plausible and persuasive responses to prompts, making it easy to create convincing scientific work such as reports and papers. However, conversational AI generates sentences based on statistical associations between the inputted prompt and the datasets on which it was trained, so the generated responses may contain incorrect or biased information. If you uncritically accept such information, it will prevent you from making accurate statements and, if you proceed with your research based on such information, it may also lead to a risk of you being led in the wrong research direction. To properly use conversational AI, you need specialized knowledge in your field to judge critically whether the generated responses are correct. With such knowledge, conversational AI can be utilized to improve your working efficiency.

On the other hand, if you lack the ability to understand a particular topic, using the response of conversational AI as produced, or by changing the output slightly, may lead you to present work which contains incorrect information. Presenting someone (or something) else's work as your own is plagiarism and is no different to copying and pasting text from existing papers or information from the Internet.

So, should you simply list "ChatGPT" for example as a citation? The most important thing in scientific work is that the person presenting it is accountable for showing the basis for their work and argument. Conversational AI currently cannot cite sources, guarantee the correctness of its output, or be held responsible for it output, so it generally cannot be recognized as an author or co-author of a paper. It is therefore not appropriate to list a conversational AI as a source when it cannot be recognized as an author.

There are also concerns about transparency when using conversational AI. For example, the large language models that ChatGPT uses, and the datasets used for learning, have not been disclosed publicly. The information you input may be used to generate other sentences, leading to a risk of personal information or important research information being leaked if inputting it into a conversational AI.

As mentioned above, when using conversational AI for scientific discourse, it is always necessary to be aware of truthfulness, honesty, and transparency. Therefore, in the HIGO program we will require you to explicitly state whether you used conversational AI in the creation of materials (reports, applications, etc.) and if you did, which conversational AI you used and how you used it.

If we rely on AI for all intellectual activities in scientific research, we will lose our autonomy as human researchers. However, no matter how much AI technology develops in the future, without human curiosity, imagination, creativity, and originality, there will be no progress in science. As AI technology is rapidly evolving, it is becoming increasingly important to think about how to deal with AI technology and how to use it properly in scientific research.

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(Note: Conversational AI was not used in the creation of this document)