Undergraduate supervisor guidance on the use of AI

What is Artificial Intelligence?

Artificial Intelligence (AI) is a rapidly evolving field of developing machine intelligence to replicate, and in some cases, exceed human cognitive capacities. The most prominent techniques in AI that have risen to wider attention are machine learning, large language models, and natural language processing (generative AI) which, when prompted by user input, can produce seemingly intelligent responses replicating that of human interaction.

Large language models do not operate as a search-and-find mechanism, but instead generate unique text by identifying what is most likely to appear in a sequence, based on the parameters entered by the user. It is not, strictly speaking, an intelligent machine, but is operating on a prediction model based on large data sets. The more users engage with, and contribute to, these platforms, the more efficient they become in answering queries and providing in-depth responses. Because the text is uniquely generated, it is not detectable through traditional methods for identifying matched text and potential plagiarism.

The rise in popularity has raised many moral and ethical queries regarding the proper use of AI in education. The University of Cambridge has published <u>guidance for staff and students on the use of</u> <u>Generative AI in University teaching</u>, this supplementary general guidance is aimed at supporting undergraduate supervisors. Guidance, support, and information may vary at more local levels within Schools, Departments, Faculties and Colleges.

Guiding Principles for use of Generative AI in undergraduate supervisions

- Content produced by AI does not represent original content generated by a student and will be considered a form of <u>academic misconduct</u> if used indiscriminately or inappropriately. However, students are permitted to use such tools for personal study, research, and a number of other scenarios, including but not limited to:
 - a. providing an overview of new concepts and acting as a collaborative coach to problem solve
 - b. reinterpreting information to present alternative ways of expressing ideas
 - c. supporting time management and suggesting methods of approaching complex tasks
 - d. generating ideas or overcoming writer's block assisting through design processes
 - e. making sense of complex information and prompting reflective questions to facilitate learning
 - f. dynamic self-evaluation offering structured Q&A or discussion topics to monitor own progress
- 2. Al tools like ChatGPT and others may be useful as a study aid, for inspiration or exploring concepts, for approaching complex tasks or content, or for supporting self-assessment and review.
- 3. Students should understand that content produced by AI is not a replacement for developing their own skills in critical analysis, creative thinking, and rigorous research. Generative AI tools produce answers that may contain social biases and stereotypes depending on the information it has access to and draws upon. It is important to understand the implications of generated information and proceed with caution when using outputs from these platforms without thorough analysis and critical reflection.
- 4. Al detection software should not be replied upon: Detection of Al-generated content is possible, but difficult and can often return unreliable results, including false positives. The rate of detection will only decrease as language models improve.

5. Students should be engaged with to understand how AI tools could be used effectively within a controlled teaching and learning context. This not only welcomes further discussion and develops trust in doing so, but can allow students to see the potential flaws and limitations further discusding them from relying on them.

With the above principles in mind, supervisors should not prohibit the use of AI in work produced for supervisions but require students to clearly state when AI has been utilised. Using AI tools to assist a student's thought process is helpful, but extensive use can limit a student's ability to learn and make them unprepared for formal assessments.

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