RESEARCH ETHICS AND INTEGRITY WHEN USING ARTIFICIAL INTELLIGENCE (AI)

Research ethics and integrity when using Artificial Intelligence (AI)

There are many potential uses for internally developed and commercially available Artificial Intelligence (AI) in research and professional settings.

There are a number of risks and responsibilities that you need to consider when using AI tools in your research.

The Australian Code of the Responsible conduct of Research (2018) states that it is the responsibility of researchers to ensure that they comply with the relevant laws, regulations, disciplinary standards, ethics guidelines and institutional policies related to responsible research conduct.

This includes research activities with emerging technologies such as AI. As with any research project it is important that you undertake due-diligence work when preparing to use a novel technology to ensure that any legal or ethical risks are understood and mitigated prior to commencing your project.

In Australia, all research involving Human participants or their data is subject to ethical approval as detailed in the National Statement for Ethical Conduct of Human Research 2007 (updated 2018). This includes data held within repositories and posted on social media. Just because data is available in the public domain does mean it is automatically approved for use in research.

Questions to ask when considering the use of AI

- What are the legal, regulatory, ethical and procedural considerations for this project?
- Do I need ethical approval to use this data and tool?
- Do I have consent and approval to use data in this way?
- Who has access to the data that I share with this tool?
- Where is the data stored and for how long?
- What broader concerns or risks may there in using this tool?
- Does the research design address concerns of data integrity and validity?

Use cases of of AI include but are not limited to:

TEXT

- Tools such as ChatGPT and Bard use AI to generate human like text based on prompts, past conversation or google-app integration.

IMAGE

- Products such as DALL-E, MidJourney or DeepDream use text prompts or photographs to generate images such as photographs or artworks.

MUSIC AND AUDIO

- Magenta and Lyrebird are examples of AI platforms where users can use machine learning to generate music or imitate human voices.

VIDEO

- Video generators use a variety of media types to quickly create realistic video content.

DRUG DISCOVERY

- AI can be used to assist in drug discovery by analyzing trends, patterns and molecule structures to help identify and predicted the outcomes and effectiveness of existing and novel drugs.

Relevant Links:

- National Statement on Ethical Conduct in Human Research (2007) - Updated 2018

  https://www.nhmrc.gov.au/about-us/publications/national-statement-ethical-conduct-human-research-2007-updated-2018

- Australian Code for the Responsible Conduct of Research, 2018

  https://www.nhmrc.gov.au/about-us/publications/australian-code-responsible-conduct-research-2018#block-views-block-file-attachments-content-block-1

Useful Resources:

- Specific challenges posed by artificial intelligence in research ethics

  https://www.frontiersin.org/articles/10.3389/frai.2023.1149082/full

- TESQA Resources on Artifical Intelligence

  https://www.teqsa.gov.au/guides-resources/higher-education-good-practice-hub/artificial-intelligence

- CSIRO Discussion paper: AI Ethics Framework

  https://www.csiro.au/en/research/technology-space/ai/ai-ethics-framework

- UNESCO Recommendation on the Ethics of Artificial Intelligence

  https://unesdoc.unesco.org/ark:/48223/pf0000380455