Svitlana Krasniuk
senior lecturer,
Kyiv National University of Technologies and Design, Kyiv
Svitlana Goncharenko
senior lecturer,
Kyiv National University of Technologies and Design, Kyiv

ETHICS OF USING LARGE LANGUAGE MODELS IN MACHINE LINGUISTICS

Artificial intelligence is becoming increasingly central to philological research. It opens new possibilities for the analysis of language, literature, and the corresponding culture. However, it also requires researchers to take a systematic approach to the effective use of these powerful artificial intelligence (AI) tools, especially in the field of philological research [1]. Large language models (LLM) are becoming more and more common, but the scientific and practical results in this area are actualizing ethical discussions and complex challenges.

The space of reasoning about the ethics of large language models deepens into multifaceted considerations. The very basis of these models, their training data, bears the imprint of societal biases - a phenomenon that echoes in their results. Although steps are being taken to improve equity and minimize bias, the pervasiveness of these biases remains a critical issue that prompts ongoing reevaluation of strategies.

LLM's skill in creating texts raises ethical dilemmas that they can become channels for disinformation. The ability to create persuasive, human-like texts becomes a double-edged sword, creating challenges in finding a delicate balance between protecting freedom of expression and preventing the spread of harm. This conundrum is especially acute in the digital age, where the impact of misinformation can be far-reaching and profound.

Privacy becomes a paramount issue, as the very nature of LLM involves the absorption and reproduction of vast amounts of information. Such unintentional memorization of private data increases the risks of privacy violations. Implementing robust measures to prevent the inadvertent leakage of sensitive or personally identifiable information is imperative to ensure the responsible use of these models.

The significant environmental impact of learning large language models adds another layer of ethical considerations. The computing resources required to train them contribute significantly to carbon emissions. Balancing the desire for innovation and commitment to sustainable development requires an urgent search for more energy-efficient teaching methods. Ethical responsibility in this context goes beyond the impact on individuals and encompasses the wider environmental consequences of implementing such advanced technologies.

Essentially, ethical reflection emphasizes the need for an integrated approach. It involves overcoming prejudices, maintaining a fine line between freedom of expression, and preventing harm, protecting private information and taking into account environmental consequences. As we leverage the capabilities of the LLM, the ethical path involves continuous improvement and adaptation to ensure that these powerful tools make a positive contribution to society without compromising fundamental principles.

Considering the complexities listed above, it is worth emphasizing the perspective of improved innovative directions of scientific linguistic research - *hybrid-ensemble* Large Language Models.

References:

1. Maxim Krasnyuk, Svitlana Krasniuk, Svitlana Goncharenko, Liudmyla Roienko, Vitalina Denysenko, Liubymova Natalia. Features, problems, and prospects of the application of deep machine learning in linguistics //Bulletin of Science and Education, №11(17), 2023. 19–34. http://perspectives.pp.ua/index.php/vno/article/view/7746/7791