

UDC 004.8

## **AI TECHNOLOGY IN THE CREATION OF A TOOL FOR ASSESSING THE ORIGINALITY OF TEXTS**

T.I. Astistova, Associate Professor, Candidate of Technical Sciences

*Kyiv National University of Technology and Design*

A.O. Sedlyar, master student

*Kyiv National University of Technology and Design*

**Keywords:** API, web application, finance, banking system, application, computer science.

Artificial intelligence (AI) has finally ceased to be science fiction. Today, it is impossible to predict all the trends in the development of AI technologies. Machine Learning (ML) is a field of AI technology development dedicated to the creation of algorithms for autonomous computer learning. With the help of ML models, machines can solve almost any data processing task without clear algorithms and instructions.

The rapid development of AI is not only a technical problem. In the coming years, the global community will work on mechanisms for legal and technological restrictions of AI technologies. It is possible to introduce new approaches for technical control of generative AI, such as RAG (Retrieval Augmented Generation).

One of the main challenges of implementing AI technologies is to make their operation more understandable and transparent for each user, to understand the logic of decision-making. This is important both in terms of trust in the technology and the need to control its operation.

Explainable AI (XAI) models play an important role in Interpretability. They help to describe how the model works, determine its impact and possible limitations. We cannot allow AI to operate in a 'black box' manner and make decisions that cannot be understood by humans.

Deep learning algorithms are increasingly seen as a separate, full-fledged area of AI development. Deep learning is based on artificial neural networks, algorithmic structures that mimic the mechanisms of human abstract thinking. Large language models and generative AI are based on deep learning technologies.

The role of artificial intelligence in research, student and pupil work is directly linked to the purpose and future of education. This tool will help redefine how students learn, teachers teach, and knowledge is valued in general. When students allow artificial intelligence to write their essays, solve problems for them, or even answer tests for them, we lose touch with the authenticity of learning. This renders it meaningless whether the student has actually studied the material or allowed the machine to think for them. The way to solve this problem is to use advanced methods of analysing language models, syntax, and style to identify content written by AI (Figure 1).

This is because, even with a high degree of fluency that can make a language look like a human language, AI completes a text with a certain ‘fingerprint’ in structure and vocabulary. Moreover, recognition tools are trained on large samples of both human and artificially generated texts to identify patterns that are much less common in human writing. For example, artificial content can use repetitive sentence structures, predictable phrases, or unnatural word choices that sound polished but lack the nuances of human expression.

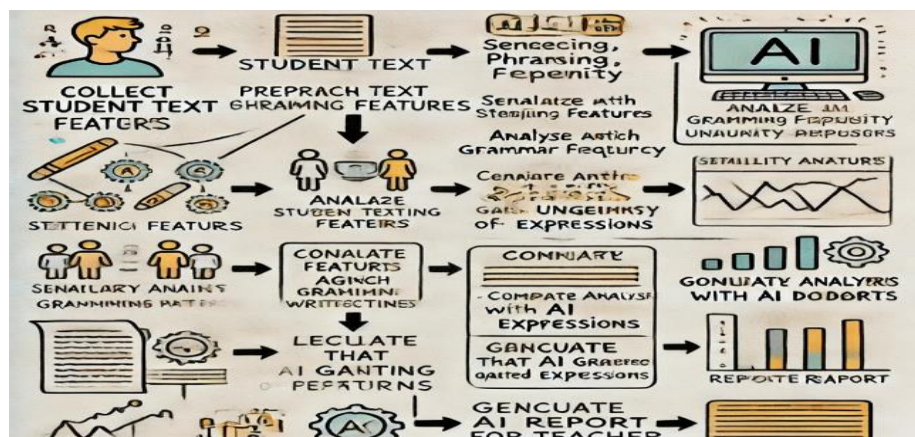


Figure 1 - AI detection algorithm

Another approach is related to probability modelling. AI models recognise probable combinations of words and sentence structures that look natural in a language. Suspicions of AI involvement arise when word patterns in the text deviate from these organic patterns. In this regard, OpenAI uses this type of probabilistic analysis to assess how ‘human’ a piece of writing is in its AI classifier, among other tools.

From an academic integrity perspective, these detection tools can help educators flag suspicious content for investigation and verification. This use of AI will help educational institutions maintain fairness, as students can be confident that their work, or that of their peers, truly reflects the effort and understanding they have acquired. AI detection tools add an integral layer of accountability in an academic environment to ensure that work is being done honestly, rather than relying too heavily on AI assistance.

## References

1. «Unicheck». unicheck.com. URL: <https://unicheck.com/ua/blog/shtuchnij-intelekt-na-dopomogu-perevirczii-avtorstva-tekstiv-vid-shekspira-do-naukovih-dorobkiv>.
2. «Openedx». openedx.org. URL: <https://openedx.org/uk/blog/what-is-the-impact-of-ai-in-the-online-learning-space>.
3. «The Impact of Artificial Intelligence on Students' Learning Experience» papers.ssrn.com URL: [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=4716747](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4716747).