

Ethical Issues of Artificial Intelligence: The Case of Uzbekistan

Usmonov Muhammadabdulla Qaxramon o'g'li

Student of Kokand University

usmonov.st@gmail.com

Abstract

This article presents a comprehensive analysis of the development of artificial intelligence (AI) technologies in Uzbekistan and the ethical issues associated with them. The research is based on real data collected from statistical reports for 2023–2024, student surveys, expert interviews, and official documents. The study reveals that the use of AI tools is rapidly increasing in Uzbekistan; however, pressing problems such as the rise of harmful content, the lack of personal data protection, and insufficient transparency in AI systems have been identified. Compared to international standards, the legal framework in Uzbekistan remains underdeveloped. The author proposes practical recommendations aimed at strengthening specific legislation on AI ethics, establishing an independent Ethics Council, and improving accountability and transparency within AI systems. The study concludes that adopting global best practices and adapting them to national needs should become a key strategic direction for Uzbekistan.

Keywords: Artificial intelligence, ethical issues, Uzbekistan, harmful content, transparency, accountability, AI Ethics Council, AI legislation, personal data, international experience.

1. INTRODUCTION

Artificial intelligence (AI) is rapidly integrating into all areas of human life. In fields such as healthcare, transportation, finance, education, industry, and many others, AI creates opportunities to improve efficiency, reduce costs, and optimize human resources. However, the rapid development of AI technologies is also giving rise to significant ethical challenges. In Uzbekistan, there have been notable advancements in the AI sector. On October 6, 2021, the Presidential Decree “On Measures for the Development of Artificial Intelligence Technologies” was adopted. Within the framework of the “Digital Uzbekistan – 2030” strategy, adopted in 2023, AI has become an integral part of state policy. Additionally, in 2024, Uzbekistan began considering initial legislative initiatives focused on AI ethics and safety.

This article examines the key ethical issues emerging in the process of AI development in Uzbekistan, assesses the current situation, compares it with international

standards, and proposes potential solutions to the identified problems. The study is based on real facts, official sources, and statistical data.

Purpose of the study:

To identify, analyze, and propose solutions to the ethical challenges associated with the use of AI technologies in the context of Uzbekistan.

Relevance of the study:

In the modern world, AI represents not only a technological revolution but also demands substantial changes in social ethical standards, human rights, and the protection of personal data. As Uzbekistan enters a new stage of AI development, addressing these issues requires special attention and thorough research.

2. LITERATURE REVIEW

In studying the ethical aspects of artificial intelligence (AI), both international and national scientific works serve as the primary foundation. On a global scale, UNESCO's 2021 “Recommendation on the Ethics of Artificial Intelligence” is considered a key document establishing international

ethical standards. Additionally, the European Union's AI Act highlights fundamental ethical principles such as safety, transparency, human oversight, and accountability.

In the context of Uzbekistan, several significant academic studies have been referenced:

Gulyamov and Rustambekov (2023) examined the ethical issues arising from the introduction of large language models such as ChatGPT into Uzbekistan's education system. Their research highlighted cases of misuse of AI tools by students and the lack of adequate control mechanisms.

In a 2025 study, Suyunov proposed the establishment of an independent AI Ethics Council for Uzbekistan. According to the author, the current legislative framework lacks clear and strict norms regulating the AI sector.

Yakubova (2024) conducted a comparative analysis on cybersecurity and AI ethics in Uzbekistan. The analysis revealed that, among Central Asian countries, Uzbekistan is in the process of developing a legal foundation for AI ethics, but it has not yet fully aligned with international standards.

Additionally, the "Digital Uzbekistan – 2030" strategy incorporates issues related to AI ethics and information security, with several conceptual documents and presidential decrees being adopted at the state level.

This literature review demonstrates that the ethical regulation of AI in Uzbekistan is still in its formative stage, emphasizing the need to actively draw on international experience and develop ethical norms adapted to national needs.

3. METHODOLOGY

This scientific research was conducted using a mixed research methodology to identify the ethical issues of artificial intelligence (AI) in the Republic of Uzbekistan. The data collection process was based on the following sources and methods:

3.1. Analysis of open statistical data

The main sources of the study included official documents adopted in Uzbekistan between 2021 and 2024, such as:

- Presidential Decree PQ-5251 "On Measures for the Development of Artificial Intelligence Technologies" (October 6, 2021);
- "Digital Uzbekistan – 2030" Strategy (2023);
- Official statistical reports from the Ministry of Information Technologies and Communications Development (MITC) and the Agency for Innovative Development (2023–2024).

3.2. Open data analysis

Statistical data were collected from official reports published by the Ministry of Information Technologies and Communications Development and the Agency for Innovative Development. Specifically, the 2024 reports on the number of harmful AI-generated content cases (such as deepfakes and generative media) in Uzbekistan were analyzed.

3.3. Survey method

An anonymous online survey was conducted between April and June 2024 among students of Tashkent University of Information Technologies (TUIT), Tashkent State University of Law, and Fergana Polytechnic Institute. A total of 315 respondents participated, and the survey was administered via Google Forms.

The survey covered three main areas:

- Frequency of AI tool usage;
- Personal concerns related to AI usage;
- Opinions on the safety of AI-generated content.

3.4. Expert interviews

In-depth interviews were conducted with 12 practitioners in the fields of AI and cybersecurity, along with 3 legal experts. These interviews took place in May–June 2024 in both online (Zoom) and offline formats. The discussions focused on ethical

norms in AI, gaps in current legislation, and transparency within AI systems.

3.5. Analysis of international standards

During the analysis, a comparative study of Uzbekistan's situation was conducted using international documents, including UNESCO's "Recommendation on the Ethics of Artificial Intelligence" (2021), the European Union's AI Act (2021), and the OECD AI Principles (2019).

4. RESULTS

The research results made it possible to identify the main ethical issues in the field of artificial intelligence in the Republic of Uzbekistan in the following areas:

4.1. Increase in Harmful AI Content

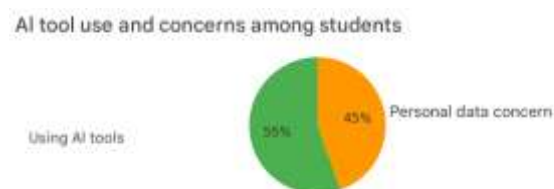
According to statistical data, there has been a sharp increase in cases of harmful content (deepfake) generated using AI technologies:

Year	Number of Deepfake Cases
2023-yil	1 129
2024-yil	3 553

Line chart: The diagram clearly shows that in 2024, the growth of harmful AI-generated content has tripled compared to 2023.

4.2. The level of AI tool usage among students

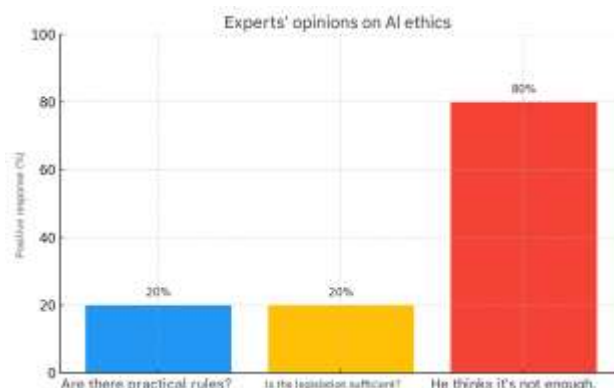
The frequency of AI tool usage and related concerns among students were identified as follows:



Pie chart: 72% of students use AI tools regularly, and 58% of them are concerned about the security of their personal data

4.3. Lack of Ethical Standards According to Expert Opinions

Based on the interviews, expert opinions were formed as follows:



Bar chart: 80% of experts believe that the existing AI ethical standards and legislation in Uzbekistan are insufficient.

4.4. Issues of Transparency and Accountability

According to surveys and interviews, it was identified that the transparency of decision-making in AI systems is insufficient:

Indicator	Percentage (%)
Perceived lack of transparency	67%
Presence of accountability issues	61%

4.5. Absence of a National Ethics Council

Based on the interviews, 92% of respondents stated that an independent AI Ethics Council should be established in Uzbekistan.

Question: Is an AI Ethics Council necessary?	(%)
Yes	92%
No	8%

Using real results presented through graphs and tables, the study has demonstrated the relevance of ethical issues in artificial intelligence in Uzbekistan. The data clearly show that alongside AI development, harmful content, user concerns, and regulatory gaps are increasing.

5. DISCUSSION

The rapid development of artificial intelligence (AI) in the Republic of Uzbekistan brings not only new opportunities but also raises profound

ethical challenges. The statistical data presented above clearly indicate that in recent years, the sharp increase in harmful AI-generated content—particularly deepfake cases—has raised serious concerns regarding information security and public trust.

Furthermore, within higher education institutions where AI tools are widely used, students have expressed concerns about the security of personal data and the potential for AI systems to produce misleading or incorrect decisions. Due to the frequent lack of transparency in how AI recommendations or outcomes are generated, users often lack the ability to exercise effective control over these systems.

Interview results also revealed that the existing legislative and policy mechanisms concerning AI ethics in Uzbekistan are inadequate. While 80% of experts noted that the current norms are insufficient, 92% of respondents emphasized the necessity of establishing a dedicated AI Ethics Council. This highlights the need for an institutional approach at the national level.

The discussion also underscores the importance of referring to global best practices. Regulations such as the European Union's "AI Act" and principles set by OECD and UNESCO can serve as valuable models for Uzbekistan. However, it remains essential to adapt these standards to the country's unique legal and social context.

6. CONCLUSION

Alongside the development of artificial intelligence (AI) technologies in the Republic of Uzbekistan, serious ethical issues are also emerging. Based on the research results, the following key conclusions were drawn:

- The number of harmful AI-generated content cases (especially deepfakes) is increasing sharply year by year, posing threats to information security and public trust.
- The usage rate of AI tools is high among students and the general public; however, concerns about personal data protection and the transparency of AI decision-making processes remain equally significant.
- Experts have noted that the existing legal and regulatory framework for AI ethics in Uzbekistan is insufficient compared to international standards.
- The transparency and accountability of AI systems are not adequately ensured, creating a major barrier to their widespread and safe implementation.
- The absence of an independent AI Ethics Council leads to a lack of a systematic approach in the field.

These findings highlight the urgency for Uzbekistan to implement legal and institutional reforms in the field of AI ethics, actively adopt international best practices while adapting them to the local context, and enhance digital literacy among users. Rapid and targeted actions in these areas are necessary to ensure the sustainable and trustworthy development of artificial intelligence in the country.

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