CIVIL LAW PROTECTION OF SENSITIVE DATA OF PERSONS WITH DISABILITIES DURING PROCESSING BY ARTIFICIAL INTELLIGENCE ALGORITHMS

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Abstract. *This article addresses the civil law aspects of ensuring the security of sensitive information—specifically biometric and medical data—pertaining to persons with disabilities in the context of artificial intelligence technologies. The study examines the legal status of biometric profiles, assesses the risks associated with unauthorized profiling and data breaches, and analyzes mechanisms for civil liability and compensation for non-pecuniary damage arising from algorithmic errors. Based on the findings, recommendations are proposed for improving personal data legislation and the Civil Code of the Republic of Uzbekistan.*

Keywords: *artificial intelligence, personal data, sensitive data, persons with disabilities, civil law protection, non-pecuniary damage, algorithmic profiling.*

Introduction

The integration of artificial intelligence (AI) systems into assistive technologies, digital rehabilitation, and high-tech healthcare is a key factor in improving the quality of life and social integration of people with disabilities. Currently, biometric monitoring programs, assistive robots, and diagnostic platforms necessitate the continuous collection, systematization, and advanced machine processing of vast amounts of data regarding users' physiological and anatomical characteristics.

From a legal standpoint, information regarding health status, psychophysiological characteristics, and medical diagnoses, as well as unique biometric data, is classified as special sensitive personal data.

In accordance with the Law of the Republic of Uzbekistan "On Personal Data" (No. ZRU-547), the processing of such data is subject to a regime of enhanced protection. For instance, the law mandates strict measures regarding the use of data for specific purposes, the requirement for the data subject's explicit written consent, and adherence to confidentiality standards.

However, a distinctive feature of AI algorithms is their capacity for self-learning, the continuous integration of data from diverse sources, and the de-anonymization of information; this creates a significant discrepancy between formal regulatory frameworks and the actual protection of citizens.

Breaching the confidentiality of sensitive data concerning persons with disabilities can lead not only to financial risks but also to threats of invasion of privacy, discriminatory profiling, and non-pecuniary harm. Consequently, there is a growing need for a comprehensive study of civil law mechanisms for protecting this category of data, identifying the parties responsible, and improving procedures for compensation for damages.

The danger of algorithmic personality profiling and the creation of biased social profiles

A key advantage of modern AI systems is their ability to engage in continuous self-learning and perform deep cross-analysis of heterogeneous data. However, this functionality renders the practice of data anonymization effectively futile, as algorithms can deanonymize users by correlating indirect markers—such as behavioral patterns, medical expenses, and geolocation data.

For persons with disabilities, this creates risks of uncontrolled digital profiling. The result is covert algorithmic discrimination, manifesting as biased pricing, denials of insurance and financial services, and restricted career prospects—all without the individual's knowledge.

The Global Scope of the Problem: International Practice and Facts

The issue of algorithmic de-anonymization and discriminatory profiling is not a theoretical problem but a confirmed fact, demonstrated by research from leading scientific institutions. For instance, seminal studies by Harvard University and the Massachusetts Institute of Technology (MIT) have shown that standard methods for anonymizing medical and biometric data do not provide reliable protection.[1]

Just three indirect data points—ZIP code, date of birth, and gender—are sufficient to identify 87% of the US population.

For people with disabilities, this figure approaches 100%, as their unique digital footprint—shaped by regular specialized purchases (such as orthopedic products and medications) and visits to rehabilitation facilities—is easily recognized by machine learning algorithms.

Judicial and administrative proceedings worldwide clearly demonstrate the scale of civil rights violations:

[1] Sweeney, L. Simple Demographics Often Identify People Uniquely / L. Sweeney. — Cambridge : Harvard University, Data Privacy Lab, 2000. — 14 p. URL: https://dataprivacylab.org/projects/identifiability/paper1.pdf

Discriminatory scoring in the US health insurance and healthcare system: A study published in the journal Science (Obermeyer et al.) revealed that the commercial algorithm Optum, used to allocate medical care among millions of patients, systematically underestimated the risks faced by individuals with serious chronic illnesses and disabilities.[2]

This occurred because the algorithm assessed the "need for care" based on historical financial treatment costs rather than objective medical data. As a result, there were widespread violations of medical service contracts and unjustified denials of insurance coverage.

Automated profiling in the social sector in the Netherlands: In the SyRI (System Risk Indication) case, the District Court of The Hague ruled unlawful the use of an algorithmic risk assessment system that aggregated citizens' sensitive data—including information on health, social benefits, and disability—to predict the likelihood of legal violations and fraud. The court found a violation of Article 8 of the European Convention on Human Rights, emphasizing that the covert creation of social profiles infringes upon principles of fairness and the civil rights of vulnerable population groups.

Algorithmic selection in hiring within the EU and the USA: The use of artificial intelligence for the automated analysis of resumes and video interviews—including the assessment of facial expressions, intonation, and speech tempo—leads to immediate discrimination against candidates with speech, neurological, or motor impairments.

Algorithms interpret deviations from the "statistical norm" as a lack of professional skills, a practice that conflicts with employers' pre-contractual obligations and the fundamental principle of equality among participants in civil legal relations.

Conclusion

The integration of artificial intelligence into the social sector and assistive technologies creates unique opportunities to foster inclusion and improve the quality of life for people with disabilities. AI is already acting as a catalyst for social integration; however, the rapid pace of technological advancement necessitates an update to the legal framework, particularly regarding the protection of confidential information.

To ensure a balance between innovation and citizens' rights, it is proposed to:

[2] Obermeyer, Z. Dissecting algorithm bias: Decision making in health care / Z. Obermeyer, B. Powers, C. Vogeli, S. Mullainathan // Science. — 2019. — Vol. 366, No. 6464. — P. 447–453. URL: https://pubmed.ncbi.nlm.nih.gov/31649194/

1. Update the Law on Personal Data: introduce a legal definition of "algorithmic profiling" and enshrine the user's right to receive explanations regarding the logic behind AI operations, while maintaining mandatory human involvement in decision-making processes that have legal consequences.
2. Update the Civil Code: clearly define liability rules and the procedure for compensating non-pecuniary damage resulting from algorithmic errors. This will eliminate legal uncertainty and protect the interests of both users and developers.

These measures will establish a robust legal framework for the development of inclusive technologies in Uzbekistan, thereby boosting public confidence in digital innovations. Integrating AI into social support and assistive technologies creates unique opportunities for the full integration of people with disabilities into society. Advanced algorithms are becoming key tools for removing barriers, facilitating access to education, healthcare, and communication.

However, maintaining trust in digital solutions requires updating the legal framework. In particular, the Law of the Republic of Uzbekistan "On Personal Data" and the Civil Code need to be amended to address the regulation of algorithmic profiling and the transparency of AI systems. Clarifying mechanisms for compensation for non-pecuniary damage and protection against de-anonymization will help create a secure environment without stifling innovation.

List of References

I. Regulatory Legal Acts and State Documents of the Republic of Uzbekistan

1. Civil Code of the Republic of Uzbekistan (enacted by the Law of the Republic of Uzbekistan No. 256-I dated August 29, 1996) // Bulletin of the Oliy Majlis of the Republic of Uzbekistan. 1996. No. 2. Art. 1. URL: https://lex.uz/docs/180550
2. Law of the Republic of Uzbekistan “On Personal Data” dated July 2, 2019, No. ZRU-547 // National Legislation Database (Lex.uz). URL: : https://lex.uz/docs/4396428
3. Law of the Republic of Uzbekistan “On the Rights of Persons with Disabilities” dated October 15, 2020, No. ZRU-641 // National Legislation Database (Lex.uz). URL: https://lex.uz/docs/5049549
4. Decree of the President of the Republic of Uzbekistan "On the 'Uzbekistan – 2030' Strategy" dated September 11, 2023, No. UP-158 // National Database of Legislation (Lex.uz). URL: https://lex.uz/docs/6600404.

5. Resolution of the President of the Republic of Uzbekistan No. PP-4996 "On measures to create conditions for the accelerated implementation of artificial intelligence technologies" dated February 17, 2021 // National Legislation Database (Lex.uz). URL: https://lex.uz/docs/5297051.

II. International legal acts and judicial precedents

6. Universal Declaration of Human Rights (adopted by UN General Assembly Resolution 217 A (III) of 10 December 1948). URL: https://www.un.org/ru/documents/decl_conv/declarations/declhr.shtml
7. UN Convention on the Rights of Persons with Disabilities (adopted by UN General Assembly Resolution 61/106 of December 13, 2006; ratified by the Law of the Republic of Uzbekistan No. ZRU-695 dated June 7, 2021). URL: https://www.un.org/ru/documents/decl_conv/conventions/disability.shtml
8. Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data (General Data Protection Regulation – GDPR) URL: https://ogdpr.eu/ru/gdpr-2016-679
9. Regulation (EU) 2024/1689 of the European Parliament and of the Council of 13 June 2024 laying down harmonised rules on artificial intelligence (Artificial Intelligence Act – AI Act). URL: https://eur-lex.europa.eu/eli/reg/2024/1689/oj/eng
10. Decision of the District Court of The Hague (Netherlands) of February 5, 2020, in Case No. C/09/550982 / HA ZA 18-588 (NJCM et al. v. the State of the Netherlands). URL: https://uitspraken.rechtspraak.nl/details?id=ECLI:NL:RBDHA:2020:1878