



MIRZO ULUG'BEK NOMIDAGI
O'ZBEKISTON MILLIY UNIVERSITETI
JIZZAX FILIALI



**KOMPYUTER ILMLARI VA
MUHANDISLIK TEXNOLOGIYALARI**
XALQARO ILMIY-TEXNIK
ANJUMAN MATERIALLARI
TO'PLAMI
1-QISM



26-27-SENTABR
2025-YIL



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**O‘ZBEKISTON RESPUBLIKASI OLIY TA’LIM, FAN VA
INNOVATSIYALAR VAZIRLIGI**

**MIRZO ULUG‘BEK NOMIDAGI O‘ZBEKISTON MILLIY
UNIVERSITETINING JIZZAX FILIALI**



**KOMPYUTER ILMLARI VA MUHANDISLIK
TEXNOLOGIYALARI**
mavzusidagi Xalqaro ilmiy-texnik anjuman materiallari
to‘plami
(2025-yil 26-27-sentabr)
1-QISM

JIZZAX-2025

Kompyuter ilmlari va muhandislik texnologiyalari. Xalqaro ilmiy-texnik anjuman materiallari to'plami – Jizzax: O'zMU Jizzax filiali, 2025-yil 26-27-sentabr. 355-bet.

Xalqaro miqyosidagi ilmiy-texnik anjuman materiallarida zamonaviy kompyuter ilmlari va muhandislik texnologiyalari sohasidagi innovatsion tadqiqotlar aks etgan.

Globalashuv sharoitida davlatimizni yanada barqaror va jadal sur'atlar bilan rivojlantirish bo'yicha amalga oshirilayotgan islohotlar samarasini yaxshilash sohasidagi ilmiy-tadqiqot ishlariga alohida e'tibor qaratilgan. Zero iqtisodiyotning, ijtimoiy sohalarini qamrab olgan modernizatsiya jarayonlari, hayotning barcha sohalarini liberallashtirishni talab qilmoqda.

Ushbu ilmiy ma'ruza tezlari to'plamida mamlakatimiz va xorijlik turli yo'nalishlarda faoliyat olib borayotgan mutaxassislar, olimlar, professor-o'qituvchilar, ilmiy tadqiqot institutlari va markazlarining ilmiy xodimlari, tadqiqotchilari, magistr va talabalarning ilmiy-tadqiqot ishlari natijalari mujassamlashgan.

Mas'ul muharrirlar: DSc.prof. Turakulov O.X., t.f.n., dots. Baboyev A.M.

Tahrir hay'ati a'zolari: p.f.d.(DSc), prof. Turakulov O.X., t.f.n., dots. Baboyev A.M., t.f.f.d.(PhD), prof. Abduraxmanov R.A., p.f.f.d.(PhD) Eshankulov B.S., p.f.n., dots. Alimov N.N., p.f.f.d.(PhD), dots. Alibayev S.X., t.f.f.d.(PhD), dots. Abdumalikov A.A, p.f.f.d.(PhD) Hafizov E.A., f.f.f.d.(PhD), dots. Sindorov L.K., t.f.f.d.(PhD), dots. Nasirov B.U., b.f.f.d. (PhD) O'ralov A.I., p.f.n., dots. Aliqulov S.T., t.f.f.d.(PhD) Kuvandikov J.T., i.f.n., dots. Tsoy M.P., Sharipova S.F., Jo'rayev M.M.

Mazkur to'plamga kiritilgan ma'ruza tezlilarining mazmuni, undagi statistik ma'lumotlar va me'yoriy hujjatlarning to'g'riligi hamda tanqidiy fikr-mulohazalar, keltirilgan takliflarga mualliflarning o'zlari mas'uldirlar.

ARTIFICIAL INTELLIGENCE AND INFORMATION SECURITY: INNOVATIVE SOLUTIONS IN CLOUD TECHNOLOGIES

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Abstract. This paper discusses the integration of artificial intelligence (AI) with cloud technologies and its role in ensuring information security. Special attention is given to modern solutions in financial technology and corporate services. Based on the experience of Basware, a leading Finnish company, the paper examines mechanisms for securing cloud environments and evaluates the effectiveness of intelligent systems in mitigating cyber threats.

Keywords: Artificial Intelligence, Cloud Computing, Information Security, Cybersecurity, Fraud Detection, Machine Learning.

In the 21st century, information technologies remain one of the main drivers of global development. Artificial Intelligence (AI) and cloud computing are widely applied in industries such as manufacturing, healthcare, education, and financial services. However, the expansion of digital ecosystems has introduced new vulnerabilities and cyber threats. As a result, information security has become a strategic priority for organizations worldwide.

1. The Role of Artificial Intelligence in Information Security

AI algorithms are increasingly used in:

- Security monitoring
- Anomaly detection
- User behavior analysis
- Cyberattack prediction

Unlike traditional systems, which mostly react to existing threats, AI-powered solutions enable proactive protection, identifying risks before they cause damage.

2. Cloud Technologies and Security

Cloud infrastructures provide organizations with flexibility, cost efficiency, and scalability. At the same time, securing cloud-based services requires specific approaches, such as:

- Data encryption for confidentiality
- Multi-factor authentication (MFA) to prevent unauthorized access
- Zero Trust Architecture for enhanced resilience
- Real-time monitoring with SIEM (Security Information and Event

Management) systems

3. Practical Experience in Cloud Security

A major European provider of financial technology and cloud services has successfully implemented innovative security strategies, including:

- AI-based fraud detection systems
- Automated cloud security management

- Microservices architecture for risk isolation
- Machine Learning models for predicting suspicious payment activities

These solutions not only improve corporate resilience against cyber threats but also strengthen customer trust in financial ecosystems.

4. Artificial Intelligence and Future Security Challenges

With the rapid growth of AI and cloud computing, new risks are emerging:

- Deepfake-based attacks
- The impact of quantum computing on encryption
- AI-driven malware capable of adapting to defenses

Addressing these challenges requires continuous scientific research, innovation, and international collaboration in the field of cybersecurity.

Conclusion

Artificial intelligence and cloud technologies have become essential for modern information security. The experience of leading cloud-based financial companies demonstrates that AI-driven proactive approaches, strong encryption methods, and automated management systems significantly enhance cybersecurity in cloud environments. In the future, wider adoption of innovative security paradigms will be crucial to addressing emerging digital threats.

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ОПТИМИЗАЦИЯ ПРОЦЕССОВ ИЗДАТЕЛЬСКИХ И ПОЛИГРАФИЧЕСКИХ УСЛУГ В ЦИФРОВОЙ ЭКОНОМИКЕ

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Аннотация. В статье рассматриваются тенденции трансформации издательских и полиграфических услуг в условиях цифровой экономики. Определены ключевые факторы оптимизации производственных и управленческих процессов. Обоснована роль цифровых технологий (Web-to-Print, электронные платформы, искусственный интеллект) в снижении издержек, ускорении производственных циклов и повышении конкурентоспособности отрасли.

Ключевые слова: цифровая экономика, издательские услуги, полиграфия, оптимизация, автоматизация, цифровая печать.