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ARTIFICIAL INTELLIGENCE IN ECONOMIC RISK ANALYSIS AND NATIONAL SECURITY

In recent decades, artificial intelligence (AI) has become an essential tool across multiple sectors, including economics and national security. Advanced machine learning algorithms allow for the rapid analysis of vast amounts of data, providing governments and financial institutions with a strategic advantage in anticipating and managing risks.

Economic crises, cyberattacks and geopolitical conflicts can have devastating consequences on a nation's stability. AI is employed to detect patterns in economic data, identify suspicious transactions and prevent security threats; however, its use also poses risks, such as biased decision-making, financial market manipulation and privacy concerns.

Ai In National Security

Artificial Intelligence (AI) plays a crucial role in modern national security by helping governments and security agencies detect, prevent and respond to threats more efficiently. AI-powered systems enhance cybersecurity, monitor geopolitical risks and support border control efforts, ensuring national stability and protection against evolving threats.

Preventing Cyberattacks:

Cyberattacks is one of the most critical aspects of national security, as cyber threats can disrupt essential services, compromise sensitive data and weaken a country's defenses. AI is used extensively to detect, analyze and neutralize cyber threats in real-time.

Border Control and Migrations Security:

AI enhances border security by improving the efficiency and accuracy of migration control, detecting illegal activities and strengthening national defense. AI-

driven surveillance technologies, biometric authentication and data analytics help authorities manage border security effectively.

AI in Counterterrorism and Criminal Investigation:

AI significantly enhances law enforcement capabilities by aiding in criminal investigations, identifying threats and preventing terrorist activities. AI-driven surveillance, data analysis and forensic technologies help authorities track suspects and uncover criminal networks.

Risks And Challenges Of Ai In Economic And National Security Analysis

While AI offers transformative benefits in economic risk analysis and national security, it also presents significant challenges. The misuse or over reliance on AI in critical sectors can lead to severe economic disruptions, security vulnerabilities, ethical concerns and legal challenges. This chapter explores the major risks associated with AI in these domains and examines potential mitigation strategies.

AI has revolutionized financial markets by enabling high-frequency trading (HFT), risk assessment and automated investment strategies. However, it also introduces risks, such as market manipulation, unfair trading advantages and system failures.

AI systems are only as reliable as the data they are trained on. If training data is incomplete, biased or outdated, AI models may produce inaccurate results, leading to flawed economic analyses and security decisions.

Future Implications Of Ai In Economic And National Security

Artificial Intelligence (AI) is poised to play an increasingly crucial role in both economic stability and national security. While its current applications are already transforming risk assessment, financial systems, cybersecurity and geopolitical intelligence, the future will bring even more advanced developments. This chapter explores the potential future implications of AI, focusing on upcoming technological trends, risks, opportunities and policy considerations.

Challenges and Risks:

- Increased Market Volatility: AI-driven trading strategies could amplify market fluctuations due to algorithmic decision-making.

- AI-controlled Financial Bubbles: Over-reliance on AI in investment decisions may lead to asset bubbles or economic crashes.
- Security Concerns: The rise of AI-powered financial fraud and hacking attempts targeting financial institutions will require stronger cybersecurity measures.

Autonomous AI in Military and Defense System:

The future of AI in military defense will likely involve autonomous weapons, AI-driven strategic planning and intelligent battlefield analytics. While these advancements offer security advantages, they also pose significant ethical dilemmas.

The future of AI in economic and national security holds immense promise but also presents unprecedented risks. AI will drive economic stability, strengthen global security and enhance decision-making processes. However, without proper regulations. AI could also be misused in financial markets, cybersecurity, warfare and geopolitics. Governments, businesses and international organizations must take proactive steps to balance AI's benefits with its ethical and security challenges. The next decade will be pivotal in determining whether AI becomes a tool for global stability or a source of technological disruption.

Referinces:

1. **Agrawal A., Gans J. & Goldfarb A. (2018),** *Prediction Machines: The Simple Economics of Artificial Intelligence*. Harvard Business Review Press.
2. **Bostrom N. (2014),** *Superintelligence: Paths, Dangers, Strategies*. Oxford University Press.
3. **European Central Bank (2022),** *The Role of Artificial Intelligence in Economic Forecasting and Financial Stability*. ECB Working Paper Series.
4. **Goodman M. & Lin H. (2021),** *AI and the Future of Cybersecurity: Strategies for Global Defense*. MIT Press.