## IJARSCT





international southal of Advanced Research in Ocience, Communication and recimolo

International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal



Volume 5, Issue 12, April 2025

## **Cyber Analysis Using AI**

Sachin Rustagi<sup>1</sup>, Raunak Chowdhury<sup>2</sup>, Aditya Prakash<sup>3</sup>, Ashima Mehta<sup>4</sup>, Dr. D. K. Lobriyal<sup>5</sup>

Students, Department of Computer Science, Dronacharya College of Engineering ,Gurgaon<sup>1,2,3</sup> Professor, Department of Computer Science, Dronacharya College of Engineering ,Gurgaon<sup>4</sup> Professor, College of Computer Science, Jawahar Lal Nehru University, New Delhi, India<sup>5</sup>

Abstract: This research delves into how advanced technologies are redefining modern cybersecurity strategies. With cyber threats growing more intricate, traditional protective systems are proving insufficient. Innovations like Artificial Intelligence (AI), Blockchain, Ethical Hacking, Internet of Things (IoT) security mechanisms, and Quantum Computing are increasingly pivotal in safeguarding digital environments. AI enables automated threat detection and swift response capabilities; Blockchain secures data integrity through decentralized validation; Ethical Hacking identifies vulnerabilities preemptively; IoT-focused security addresses networked device threats; and Quantum Computing, while a risk to current encryption, is also key to developing next-gen cryptographic methods. By examining the role, hurdles, and future of each technology, this study advocates for a unified and adaptive security approach. It highlights the critical need for interdisciplinary collaboration to counter evolving cyber risks effectively.

**Keywords:** Cybersecurity, Artificial Intelligence, Blockchain, Ethical Hacking, IoT Security, Quantum Computing, Threat Mitigation, Data Protection, Cryptographic Innovation





540