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(57) Abstract :

The invention discloses an AI-based tool for automated network attack simulations comprising six main modules: attack scenario generator (101), AI engine (102), network interface module (103), monitoring and logging unit (104), defense interaction analyzer (105), and reporting dashboard (106). The system simulates diverse attack vectors using artificial intelligence and reinforcement learning to adapt strategies dynamically. It provides real-time evaluation of cybersecurity defenses, uncovers hidden vulnerabilities, and integrates with existing infrastructures. The invention offers a scalable, intelligent, and proactive framework for strengthening organizational resilience against evolving cyber threats.

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