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(57) Abstract :

A system (100) and a method (200) for detection of macro-level vulnerabilities in software applications is provided. The system (100) combines static analysis, dynamic analysis, and machine learning algorithms to provide a rapid and comprehensive vulnerability assessment. The static analysis component (110) analyzes the source code to identify common coding patterns and potential vulnerabilities, while the dynamic analysis component (112) executes the software application to uncover vulnerabilities that may not be evident through static analysis alone. The machine learning component (114) continuously learns from known vulnerabilities and analyzes patterns within the application to accurately classify and prioritize potential risks. The system (100) also generates comprehensive vulnerability reports, enabling developers to take proactive measures to address security risks promptly. The system (100) enhances the efficiency and reliability of vulnerability detection, ultimately improving the security and reliability of software applications.

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