

## A Review Paper for Detecting Zero-Day Vulnerabilities

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**Abstract :** Zero-day attacks (ZDA) are increasing day by day; there are many vulnerabilities in systems and software that date back decades. Companies keep discovering vulnerabilities in their systems and software and work to release patches and updates. A zero-day vulnerability is a software fault that is not widely known and is unknown to the vendor; attackers work very quickly to exploit these vulnerabilities. These are major security threats with a high success rate because businesses lack the essential safeguards to detect and prevent them. This study focuses on the factors and techniques that can help us detect zero-day attacks. There are various methods and techniques for detecting vulnerabilities. Various companies like edges can offer penetration testing and smart vulnerability management solutions. We will undertake literature studies on zero-day attacks and detection methods, as well as modeling approaches and simulations, as part of the study process.

**Keywords :** zero-day attacks, exploitation, vulnerabilities

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