# Code Intelligence unveils Spark, an AI test agent to enhance software security



Code Intelligence, a leader in AI-driven software testing solutions, has unveiled Spark, a groundbreaking AI test agent designed to autonomously identify software vulnerabilities without human intervention. This development marks a significant advancement in the domain of security testing automation, showcasing the potential of artificial intelligence to reshape industry practices.

The technology behind Spark sets it apart as the first AI test agent capable of independently detecting real-world vulnerabilities. In a notable demonstration, Spark successfully pinpointed a heap-based use-after-free vulnerability in WolfSSL, a prominent encryption library used for embedded systems and Internet of Things (IoT) applications. The test was initiated with a single command, after which Spark autonomously conducted code analysis, created test cases, and executed them, illustrating its advanced capabilities.

This specific vulnerability posed several risks, including unexpected behaviours, system crashes, and security exploit opportunities. Following the identification of the issue, the WolfSSL team quickly released a patched version in December 2024, highlighting how effectively Spark can integrate into existing security protocols.

The automation achieved through Spark presents significant implications for software testing efficiency. For instance, when analysing codebases consisting of 100,000 lines, Spark has the capacity to save developers up to 1,000 hours of manual labour. Utilising advanced methodologies such as white-box fuzz testing, Spark simplifies intricate testing tasks, making them more accessible to a wider array of developers and businesses.

Eric Brueggemann, CEO of Code Intelligence, spoke about Spark’s potential. "The discovery of a real-world vulnerability demonstrates AI’s ability to take over traditionally manual tasks in software testing, including code analysis, identifying attack vectors, and test generation. Our next goal is automating bug remediation, creating a seamless process from test creation to proven fixes delivered in minutes," he stated.

The industry response to Spark has been positive, with experts recognising its capacity to reduce the manual workload involved in fuzz testing processes. Andreas Lackner, Senior Software Development Engineer at Vector Informatik, underscored its impact on accelerating development cycles and enhancing software quality.

In addition to these features, Code Intelligence aims to foster innovation within software testing through Spark. The company plans to advance the AI agent's capabilities by automating issue resolutions and providing developers with pre-validated pull requests, facilitating smoother code integrations.

Code Intelligence has positioned itself as a key player in aiding developers to create secure and reliable software through enhanced security testing methods. Through effective fuzz testing and integration with Continuous Integration/Continuous Deployment (CI/CD) workflows, the company helps identify vulnerabilities early, ultimately saving time and reducing associated risks.

Spark is anticipated to be launched officially on January 28, 2025, at a dedicated event that will include industry authorities from organisations like Continental and Mozilla. The event is set to delve into Spark’s functionalities and its impact on the future of software security and development.

Source: [Noah Wire Services](https://www.noahwire.com)

## References

* <https://sdtimes.com/test/code-intelligence-launches-ai-test-agent-spark/> - Corroborates the launch of Spark, an AI test agent by Code Intelligence, and its ability to identify bugs and vulnerabilities without human interaction.
* <https://tfir.io/code-intelligence-launches-new-ai-test-agent-spark/> - Supports the details of Spark's autonomous detection of a real-world vulnerability in WolfSSL and its potential to automate software testing.
* <https://siliconangle.com/2025/01/09/code-intelligences-new-ai-agent-spark-works-autonomously-find-bugs-codebase/> - Confirms Spark's capability to autonomously find bugs and its impact on reducing manual effort in software testing.
* <https://sdtimes.com/test/code-intelligence-launches-ai-test-agent-spark/> - Details the specific vulnerability found by Spark in WolfSSL and the subsequent patch release by the WolfSSL team.
* <https://tfir.io/code-intelligence-launches-new-ai-test-agent-spark/> - Explains how Spark can save up to 1,000 hours of manual effort for codebases with 100,000 lines of code.
* <https://siliconangle.com/2025/01/09/code-intelligences-new-ai-agent-spark-works-autonomously-find-bugs-codebase/> - Discusses Spark's integration with advanced security testing techniques like white-box fuzz testing.
* <https://sdtimes.com/test/code-intelligence-launches-ai-test-agent-spark/> - Quotes Eric Brueggemann, CEO of Code Intelligence, on AI's role in taking over manual tasks in software testing.
* <https://tfir.io/code-intelligence-launches-new-ai-test-agent-spark/> - Provides Eric Brueggemann's statement on the next goal of automating bug remediation with Spark.
* <https://siliconangle.com/2025/01/09/code-intelligences-new-ai-agent-spark-works-autonomously-find-bugs-codebase/> - Mentions the industry response and expert opinions on Spark's impact on software testing efficiency.