Calsoft executive reveals AI-driven testing approach cutting software release cycles by 70%

Calsoft introduced an AI-powered approach to Test Impact Analysis that eliminates unnecessary test executions in CI/CD pipelines

SAN JOSE, CA, UNITED STATES, January 22, 2026 /EINPresswire.com/ -- As enterprises accelerate digital transformation initiatives, software testing bottlenecks increasingly threaten release velocity and product quality. Shrish Ashtaputre, Senior Technical Director at Calsoft, has published a comprehensive analysis outlining how Test Impact Analysis (TIA), combined with artificial intelligence, can reduce testing cycles by up to 70% while maintaining quality standards.

> Traditional regression testing forces teams to run entire test suites even when code changes affect only a fraction of the system”
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> *Shrish Ashtaputre, Senior Technical Director at Calsoft*

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- Calsoft introduced an AI-powered approach to Test Impact Analysis that eliminates unnecessary test executions in CI/CD pipelines
- Enterprise development teams gain faster release cycles, reduced resource consumption, and improved defect detection rates
- Solution leverages machine learning and generative AI to predict test relevance with deployment on-premises for data security

The global Software Testing and QA Services Market, currently valued at $38.12 billion, is projected to reach $99.1 billion by 2032 at a 12.6% compound annual growth rate, driven by demand for more efficient testing methodologies.

“Traditional regression testing forces teams to run entire test suites even when code changes

affect only a fraction of the system," said Shrish. "In agile and CI/CD environments where code changes occur dozens of times daily, this creates massive inefficiencies. Test Impact Analysis fundamentally changes this paradigm by identifying and executing only the tests affected by recent code modifications."


Shrish Ashtaputre

Shrish's analysis details how TIA addresses critical challenges facing enterprise development teams: excessive test coverage consuming hours of compute resources, slow feedback cycles delaying releases, and difficulty maintaining sprawling test suites as applications scale. By mapping dependencies between code components and test cases, TIA enables selective regression testing that focuses resources on critical areas.

"The most significant advancement comes from applying machine learning to test selection," Shrish explained. "Our CalTIA platform analyzes historical test data to predict which tests are likely to fail based on specific code changes. Over time, these models become increasingly accurate, creating a dynamic, data-driven approach that evolves alongside the codebase."

In a recent engagement with a global networking technology enterprise, Calsoft implemented CalTIA to accelerate product releases, achieving faster validation cycles, optimized resource utilization, and improved test selection accuracy across multiple product lines.

CalTIA, Calsoft's AI-powered Test Intelligence Platform, demonstrates this approach in production environments. The on-premises solution integrates with existing development workflows through zero-touch deployment, requiring minimal manual intervention. The platform's generative AI capabilities identify gaps in test suites and automatically generate missing tests, while real-time developer notifications enable immediate triaging of failures.

The full analysis, including detailed implementation methodologies and techniques ranging from code coverage tools to machine learning-based approaches, is available through Calsoft's thought leadership resources.

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Calsoft is a global technology services provider specializing in product engineering, cloud transformation, AI/ML solutions, and quality assurance for enterprises and technology companies. With deep expertise in networking, storage, embedded systems, and semiconductor technologies, Calsoft delivers end-to-end development, testing, and modernization services. For more information, visit: https://www.calsoftinc.com/

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