Altran helps developers write better code faster with Azure AI

Challenge: traditional testing methods slow software developers down

Today's software developers are expected to write code faster without sacrificing quality, but traditional testing methods cannot keep up.

Solution: an AI-powered solution that identifies bugs before testing begins

Altran's Code Defect AI solution scans code as developers write, helping them identify and fix bugs before the testing phase even begins.

Results: enhanced developer productivity and fewer defects moving to production

With this solution, developers see an increase in productivity and output quality, helping prevent code defects from reaching production.

Today's developers are constantly expected to do more with less. With the advent of new tools and as businesses look to build new revenue streams and innovations, developers are expected to write more code, at a higher velocity, without sacrificing quality. Unfortunately, writing high-quality code requires significant time committed to testing – time developers don't have. To make matters worse, if a code defect somehow slips past testing and into production, it can be extremely expensive and time-consuming to fix down the road.

Testing code is not a fun process. Traditionally, developers finish writing blocks of code, check it into a version control system such as GitHub, and enter a rigorous testing phase where they run their work through numerous trial scenarios in an effort to break it. When bugs are detected, developers must go back into the code, try to fix the defect, and restart the testing process all over again. It's inefficient, time consuming, and expensive.

Altran, the world leader in engineering and R&D services and a Microsoft Gold Partner, looked at this process and knew that there had to be a better way to test code—a method that allowed developers to identify bugs as they worked rather than waiting for the testing period.

"It's well known that software developers are under constant pressure to release code fast without compromising on quality. As the complexity of target systems goes up, along with code variants, the software release cycle needs more than just mechanization of tasks. Software developers need decision tools that help them make tactical and strategic judgement calls— essentially getting real-time prognostics and validation tools as they code."

— Walid Negm, Group Chief Innovation Officer, Altran

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Introducing the Code Defect AI solution

Altran's new Code Defect AI solution allows developers to identify bugs earlier in the development lifecycle than ever before. As developers write code, this solution uses Azure AI and machine learning (ML) technology to check for defects, predicting where the code is most likely to break during testing. It does this by comparing the source code with decades of historical data, noting code patterns that have caused defects in the past.

This helps developers take proactive measures to fix bugs before entering the testing phase, improving efficiency and helping them reach production faster.

This is, of course, a high-level overview of the solution. For more details on how this solution works, visit the Microsoft AI Lab site here.

Partnering with Microsoft

Altran has worked with Microsoft to develop products for over a decade, but that isn't the only reason they decided to team up on this solution.

First, Microsoft's immense pool of developers made them the ideal partner for building and testing this developer-centric solution.

Second, the pre-built power of Azure AI lent itself perfectly to Altran's needs, helping them train their ML models quickly without having to start from scratch.

Third, Altran knew Microsoft could provide the troubleshooting support required to deploy the solution on GitHub.

Finally, Altran and Microsoft share a common goal: enabling the best experience possible for developers. Both organizations believe that by helping people work smarter, they can empower the world to achieve more.

"Altran has partnered with Microsoft for over a decade, providing innovative solutions and services. The Code Defect AI solution is the latest addition to our longstanding partnership, available on the Microsoft AI Lab portal."

— Naveen Saini, Assistant Vice President, Altran