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QuEST enhances lung nodule detection solution with Microsoft

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The company aims to help medical imaging device manufacturers improve the cancer nodule detection accuracy from CT scans, as compared to conventional image processing methods.



QuEST Global, a global product engineering and lifecycle services company, announced that it has enhanced its Lung Nodule Detection solution using Microsoft Azure. With the help of this solution, powered by Azure IoT Central and Azure Machine Learning (ML), the company aims to help medical imaging device manufacturers improve the cancer nodule detection accuracy from CT scans, as compared to conventional image processing methods. Once deployed, this computer-aided diagnosis application can be used for screening and will help doctors analyze CT scan images more quickly and accurately.

QuEST used Azure Machine Learning to train the Convolutional Neural Network (CNN) and the trained model was packaged in containers and deployed on IoT Edge device using IoT Central. The solution has a detection accuracy of 93 percent and sensitivity of 89 percent, with a real-time performance of 20 images per second. With the help of Microsoft technology, the entire product development lifecycle and deployment of QuEST's solution has been made more secure and efficient. The company has also used Azure Machine Learning to create customized models and IoT Central to deploy the solution on to Azure IoT Edge in containerized form for online and offline usage.

Commenting on the Lung Nodule Detection solution and the collaboration with Microsoft, Krish Kupathil, Head – Digital Innovation and Hi-Tech, QuEST Global said, "The healthcare industry is on the brink of a new wave of digital transformation, powered by breakthroughs in IoT, ML, AI and cloud platforms. We are delighted to work with Microsoft to develop our Lung Nodule Detection solution on Azure IoT and Machine Learning. This brings together our imaging, analytics and computation and machine learning expertise across the entire digital transformation ecosystem, besides enabling us to leverage Microsoft's advanced technologies and expertise in spearheading large digital implementations. This collaboration will help us in defining myriad scenarios to enable IoT use cases leveraging on our multi-domain expertise."

Bert Van Hoof, Partner Group Program Manager for Azure IoT, Microsoft Corp., said, "According to the World Health Organization, lung cancer is one of the leading causes of cancer related deaths in the world. QuEST used Microsoft Azure IoT Central and Azure Machine Learning to build an innovative solution to detect cancer nodules from CT scans with high performance, accuracy and sensitivity. Azure IoT Central provides the IoT application infrastructure that allowed QuEST to quickly build a globally available, secure, and scalable IoT solution that can be easily customized and updated. We value our ongoing collaboration with QuEST and its ability to blend deep cross industry domain expertise with the power of Azure IoT Central to build elegant solutions that tackle complex problems with great expediency."

As a trusted thinking partner, QuEST has been working with the world's most recognized companies in the healthcare industry for the last two decades. The company is committed to enable its customers to Create The Frontier by enhancing healthcare experience to improve the lives of millions of people around the world. With its expertise in new age technologies like Deep Learning, AI, IoT and ML, the company has been developing comprehensive engineering solutions by using Azure IoT, AI, and ML technologies that help OEMs and tier-one suppliers seamlessly take the next step in their digital transformation journey and make products safer and more reliable.