

# AI and machine learning aids detection of anomalies in cancer diagnosis process



## Outcome

The use of machine learning and AI results in quicker detection of anomalies in the cancer diagnosis process and is expected to help redirect the time and expertise of medical practitioners to diagnosis and patient attention.

This also improved the end-to-end performance of capsule endoscopy. This product allows CHI to reap the benefits of the ongoing digital innovation in MedTech both to further medical science and diagnostics, and to commoditise a product for use across the healthcare provider landscape, which ultimately translates to better patient care and improved health outcomes.

## Client quote






“For startups, speed is everything. Good for you if you can set up your own team of developers, engineers, and architects. But if you can't you want to have partner that can get you staff quickly, reliably and cost effectively. A partner where that team member has a home that makes them stay longer, learn outside the project and collaborate with colleagues. NashTech is such a partner. For the past ten years the NashTech team found the right people for my startups, startups I advise and also in my last corporate position as a global CTO.”

Dr. Hagen Wenzek  
Co-Founder, Corporate Health International



## Company overview

Corporate Health International is a multinational company working to build healthcare solutions to improve consumer medical evaluations.

-  **Client name:** Corporate Health International
-  **Product type:** Medical Technology: Electro-Medical Equipment
-  **Technology:** Azure, Python, Tensorflow, Nvidia
-  **Industry:** Healthcare
-  **Location:** United Kingdom

## The challenge

Corporate Health International (CHI) have a proprietary remote video capsule endoscopy product which is used to conduct minimally-invasive procedures to identify risk or presence of small bowel or colon cancer. This is an invaluable test but, in its current fully manual diagnosis process, presents considerable challenges and limitations including long and laborious reading times as well as risk of human error in missing lesions in the film. CHI approached NashTech to come up with a way to build increased pace, resilience and accuracy into the life-saving tool and diagnostic process.

## The solution

Partnering with CHI and the University of Barcelona, NashTech developed an AI and machine learning solution that would rapidly process the remote video capsule endoscopy film and flag when anomalies were detected. The solution is based on Python, Tensorflow, and harnessing the Nvidia GPU for processing.

The team used extensive training data and imagery from the University. This was ingested into the NashTech solution in order to train the machine and detect abnormal images from the endoscopic procedure. When the machine identifies abnormality, it flags and timestamps the video so that medical practitioners can quickly navigate to the relevant image and conduct a more thorough clinical assessment and diagnosis.

The diagnostics team access the data directly through the product's user interface, and images are in a standard file format, which allows them to be imported into other products in the patient care ecosystem such as electronic patient records, so that they can be shared across the patient's care providers across the integrated healthcare system.