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# 3 Milestones in Artificial Intelligence Were Just Reached -- and They Could Change Healthcare as We Know It

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Artificial intelligence (AI) is a "tsunami" that's coming to healthcare. That's what Naveen Jain, CEO of Viome, a small company focused on applying AI to healthcare, [told CNBC on Thursday](#). I suspect he's right. The waves have already started picking up force.

Three major milestones were reached related to the use of AI in healthcare in the last four weeks. There's a good chance you haven't heard about any of them. But just as undersea landslides that aren't seen can lead to a tsunami forming, these three developments in November could result in a storm that changes healthcare as we know it. And it could create fortunes in the process.

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Robot hand holding syringe

Image source: Getty Images.

## 1. A robot passed a national medical exam

The first of these big milestones was announced on Nov. 6, when

results from China's National Medical Licensing Examination (NMLE) were released. For the first time ever, an AI-powered robot passed the medical exam. It didn't just squeak by, either. The robot scored 456, nearly 100 points higher than the passing score of 360.

This robot, named Xiaoyi, was developed by Chinese technology company iFlytek and Tsinghua University. The organizations' teams used AI [deep learning](#) algorithms to process data from medical textbooks, clinical guidelines, and medical cases.

So is Dr. Roboto about to begin making rounds? No, but the potential use of the technology is significant. China faces a serious shortage of general practice physicians in rural areas. While Xiaoyi won't take the place of human doctors, iFlytek plans to launch the robot in March 2018 with the goals of assisting physicians improve their efficiency. Over the longer term, the company wants to use AI to train more general practitioners and improve cancer treatment.

## **2. AI beat human radiologists at diagnosing pneumonia**

Just over one week after the monumental AI success in China, researchers at Stanford University in California [announced another breakthrough](#). The Stanford team published a paper online on Nov. 14 describing an AI algorithm called CheXNet, which diagnoses 14 medical conditions based on chest X-ray images. ChexNet can even beat human radiologists at accurately diagnosing pneumonia.

This achievement was made possible by the release of a public data set on Sept. 26 by the National Institutes of Health Clinical Center. The data set included 112,120 frontal-view chest X-ray

images, each of them labeled with at least one of 14 medical conditions.

Stanford's Machine Learning Group quickly went to work to try to use advanced AI algorithms to make diagnoses. They focused on pneumonia, because the disease causes roughly 1 million U.S. hospitalizations each year and can be tough to spot on X-rays. After just a few weeks, CheXNet exceeded the accuracy of all previous algorithms. Even more impressive, it diagnosed pneumonia better than four of Stanford University School of Medicine's top radiologists.

### **3. Companies team up to bring AI to 500,000 medical devices**

The third AI milestone in healthcare in recent weeks involved a business collaboration rather than an algorithmic advance. On Nov. 26, **NVIDIA** (NASDAQ: NVDA) and GE Healthcare, a division of **General Electric** (NYSE:GE), announced that they were joining forces to apply NVIDIA's cutting-edge AI technologies to GE Healthcare's medical devices.

Was this really a big deal? I think so. GE Healthcare has around 500,000 imaging medical devices implemented across the world. These devices capture a lot of data that could be used by AI applications to improve healthcare. The average hospital produces an astounding 50 petabytes (that's 50 million gigabytes) each year, but less than 3% of it is currently able to be used by AI systems in a meaningful way.

GE Healthcare and NVIDIA rolled out the first fruit of their collaboration as well -- the New Revolution Frontier CT system.

Powered by NVIDIA's AI computing platform, the new system should deliver better clinical outcomes in liver lesion detection and kidney lesion characterization. The two companies hope to use AI over time to lower radiation doses, achieve faster exam times, and provide higher-quality medical imaging.

## Changing healthcare, creating fortunes?

Putting together all of these milestones made in only a few weeks of each other gives a glimpse into what is yet to come. AI is poised to transform how medical professionals diagnose and provide care. The technology will undoubtedly radically change healthcare. But what are the best ways for investors to profit?

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Lighted nodes forming human head with dollar symbols in background

Image source: Getty Images.

Although iFlytek is a publicly traded company in China, it's not currently available on U.S. stock exchanges. GE and NVIDIA, on the other hand, are alternatives for U.S. investors. Keep in mind, though, that while GE Healthcare is [likely to become a growing part](#) of GE's total business, the conglomerate continues to struggle for now. GE is probably a stock only suited for patient investors who don't mind waiting for the company to sell off some of its problematic units.

NVIDIA remains one of the most highly visible AI stocks on the market. However, the stock is priced at a steep valuation, and the company's growth appears to be slowing. In addition, NVIDIA faces

more intense competition than ever before.

In my view, the [top thing to look for when investing in AI](#) is data. All three of the milestones achieved in November hinged on tons of data. Companies with access to vast amounts of data that are also focused on AI are most likely to be the big winners.

My favorite stock right now with a focus on AI and healthcare is **Alphabet** (NASDAQ: GOOG) (NASDAQ: GOOGL). The company certainly has access to a lot of data -- perhaps more than any other on the planet. Alphabet ranks among the leaders in AI development. The tech giant is also applying its AI expertise to healthcare, with its own initiatives as well as funding start-up companies.

Unlike GE, you don't have to wait for a turnaround story with Alphabet. And unlike NVIDIA, Alphabet stock isn't trading at nosebleed levels, especially factoring in its growth prospects. You can also bet on Alphabet continuing to make plenty of acquisitions to further its AI efforts.

The tsunami of AI is coming to healthcare. My advice is to ride the wave.

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