How to Fight the Coronavirus Pandemic with AI and the IoT

According to data collected by global organizations, a total of 41.3 million coronavirus cases have been reported during the past 10 months. This pandemic has put a lot of strain on the global medical infrastructure, leading to a shortage of ventilators, masks and other healthcare resources in different

parts of the world. Many regions were hit hard by this outbreak, and by the looks of it, they'll be recovering from the damage for a long time.

Luckily, scientists and researchers are not giving up; they are using every technology available to humanity, including artificial intelligence (AI) and the Internet of Things (IoT), to track the pandemic. They're looking for ways to commercialize AI technology to replace medical experts who are risking their lives on the frontlines. As AI rises up to the challenge, let's look at some of the ways in which artificial intelligence is supporting the healthcare industry in combating COVID-19.

Real-Time Tracking and Identification of Outbreaks

AI software can be programmed to monitor global reports of COVID-19 to gather insights on the outbreak. This includes tracking symptoms and irregular signs in people, in order to alert healthcare facilities of contagion. When a patient is identified quickly, he or she can be placed in quarantine before infecting others. Moreover, tracking coronavirus cases also helps inform authorities of a possible surge in cases in a particular region. It helps hospitals and medical institutes prep their wards and makes sure they have the resources needed to quarantine and treat infected patients.

A Canadian startup called BlueDot uses AI to study various transmissible diseases. The company was able to report predictions about the spread of the coronavirus and issued public warnings before the WHO. Using AI software to detect a sudden rise in COVID-19 cases can help governments identify potential outbreaks and take necessary steps before they become unmanageable.

AI for Telemedicine

Throughout the past decade, medical institutes have shown a preference for telehealth and telemedicine. While this was

initially considered an add-on solution, it has become a vital part of healthcare professionals' tool kits to care for patients. According to statistics provided by IBIS World, the revenue generated by the telehealth services industry in 2020 is valued at $3.2 billion, and this figure is expected to rise by 9.7 percent to $3.5 billion by the year's end. The global coronavirus pandemic has caused this flare, as patients have preferred to consult with their physicians online rather than risk infection by going outside.

Artificial intelligence and IoT tools are primary components in nursing patients from a safe distance. Based on certain signatures and key symptoms, an AI program can be trained to alert medical officials to any fluctuations in a patient's health, in addition to notifying the patient so she or he can stay on top of treatment. This also means monitoring patients who are asymptomatic or have minor symptoms from the comfort of their homes. Being able to examine patients virtually is a major benefit for both doctors and patients, as it's more cost-effective and they can receive more convenient care.

Real-Life Examples: NIH Leverages AI to Fight COVID-19

The National Institutes of Health (NIH) recently introduced the Medical Imaging and Data Resources Center, which employs AI technology to help medical experts combat coronavirus. The collaborative effort between NIH and the National Institute of Biomedical Imaging and Bioengineering (NIBIB) will help to develop new solutions to aid physicians in detecting and nursing COVID-19 patients. In this imagining medical innovation, physicians can view the infected lungs and heart of a patient to evaluate disease severity, predict the best treatment and improve recovery outcomes. Bruce J. Tromberg, NIBIB's director, hopes that this medical revelation can unite medical experts, educators, and industry and government organizations to tackle upcoming challenges and improve outcomes.

However, one obstacle that blocks their path to success is that they must quickly and effectively recognize changes in medical images and asses them, coupled with other symptoms. The ambition of the Medical Imaging and Data Resource Center (MIDRC) is to use AI technology and machine-learning algorithms for implementing better diagnosing techniques to accurately extract the severity of a condition and enhance patient treatment. In theory, medical officials can harness this technology to collect a vast repository of COVID-19-infected chest images, which can help them examine lung and cardiac tissue data. As a result, they can conduct extensive research on symptoms and invent predictive COVID-19 imaging signatures to aid healthcare experts in treating patients.

AI Models Help to Find Potential Drug Leads

Although scientists have been on the case of the coronavirus since day one, it’s incredibly complicated and challenging to produce the right solution within a short span of time. This is where AI technology can lend a helping hand to professionals in analyzing biomedical data and concocting a definite cure to fight this disease. The human brain can handle only so much, but machines are designed to consume and process vast volumes of information rapidly. They can keep track of fast-changing conditions, which helps researchers to refer and evaluate data effectively.

Researchers at BenevolentAI in London harnessed the capabilities of AI to establish an existing arthritis pill as a potential treatment for COVID-19. This followed a search for drug candidates that possessed antiviral and anti-inflammatory properties, which were seen in severe COVID-19 cases. Baricitinib, a drug marketed by Lilly, is used to treat rheumatoid arthritis. Now, using AI tools, the drug is being tested for COVID-19 alongside remdesivir, an antiviral drug from Gilead Sciences that acquired emergency-only approval for COVID-19 patients.

AI Technology Is Forever

AI continues to help scientists uncover groundbreaking insights that can assist experts in finding new uses for existing drugs and developing new treatment procedures. It makes sense to scout through our repository of approved, broad-spectrum and narrow-spectrum drugs that are prepped for clinical trials until we can discover vaccines.

Now more than ever, medical experts are leaning on the technology sector to not only manage patients but also develop drugs to fight the coronavirus. Along with big institutes, small IT firms and even independent AI experts have polished up their coaxial cable connectors to set up their AI hardware and get searching.

AI machines, coupled with the knowledge of scientists, can speedily solve biological puzzles that wouldn't have been possible for the human brain. As a result, the medical industry has increased its investment in AI and IoT technologies for drug discovery, medical imaging and predictive diagnosis. It's safe to say AI-powered tools have been great allies to healthcare professionals during this distressing time.

Nouman Ali provides ghostwriting and copywriting services. His educational background in the technical field and business studies helps him in tackling topics ranging from career and business productivity to Web development and digital marketing. He occasionally writes articles for Shireen.

FOLLOW US ON

- Follow
- Follow
- Follow
- Follow

ABOUTCAREERSAUTHORIZED SERVICE PROVIDERSYour Privacy ChoicesTERMS OF USEPRIVACY POLICY