

Tec engineers attempt to detect COVID-19 with artificial intelligence



Their prototype will be entering a results validation phase in collaboration with TecSalud, the health area of Tec de Monterrey
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Teachers from the [School of Engineering and Sciences \(EIC\)](#) at [Tec de Monterrey](#) have developed a **system using artificial intelligence** that, according to computer calculations, **could provide highly effective COVID-19 diagnoses.**

This system is based on **scanning chest X-rays**, and a research protocol **involving radiology specialists** from [TecSalud](#) will be started to validate its results.

The technology works by **using deep learning algorithms** to develop computational neural networks for identifying characteristic patterns from more than **5,000 X-ray images** of negative and positive **SARS-CoV-2** cases.



"You often see these algorithms working highly efficiently when applied to facial or voice recognition systems."

"We decided to harness this technology to identify the main descriptors from X-ray images taken of people with COVID-19," explained **Sergio Uribe**, Director of the **Center for Innovation in Design and Technology** at the [Tec](#).

This system also uses **machine learning** to identify the information processed and provide a diagnosis to **confirm or rule out the incidence of coronavirus in each case**, added this professor.

The prototype already operates with a training level of **sensitivity and specificity that is higher than 95 percent**. These are two important parameters in methods of clinical diagnosis for **distinguishing patients suffering from the disease** from those who aren't.



Sergio Uribe, who leads this project alongside Professor **Cristian Mendoza**, said that although this method has certain advantages over **PCR tests**, such as immediate diagnosis and a considerably lower cost, **it should be considered a complementary method** to the standard test.

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