

HM HOSPITALES AND THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY JOIN SYNERGIES TO PREDICT COVID-19 BEHAVIOR

Both institutions sign a collaboration agreement

MADRID, SPAIN, July 23, 2020 /EINPresswire.com/ -- Joint teams of researchers, doctors and engineers from the HM Foundation and the 'MIT Critical Data' of the Massachusetts Institute of Technology (MIT), led by Leo Anthony Celi, carry out studies on algorithm analysis derived from the 'COVID DATA SAVE LIVES 'by [HM Hospitales](#)

Both institutions are already working on a first study to predict survival of critically ill COVID-19 patients using chest plate imaging and clinical admission data.

It is expected that as a result of this agreement, studies will be carried out that promote knowledge of COVID-19 through massive data analysis and optimize the treatment of patients who suffer from it through the use of Big Data and Artificial Intelligence techniques.

Madrid, July 20, 2020.- HM Hospitales, through the HM Hospitales Research Foundation, signed a collaboration agreement with the Massachusetts Institute of Technology (MIT) Critical Data through which both institutions agree to work with the objective of predicting the behavior of COVID- 19.

Within this collaboration framework, different computational analysis studies are being carried out that will use as an essential element the 'COVID DATA SAVE LIVES', an anonymous clinical dataset that collects the different interactions in the COVID-19 treatment process between patients attended in the Group's hospital centers. This database includes detailed information on diagnoses, treatments, admissions, ICU procedures, diagnostic imaging tests, laboratory results, discharge or passing, among many other records that HM Hospitales has made freely available to the international community.

The president of HM Hospitales, Dr. Juan Abarca Cidón, expressed that "since we made our anonymous database available to researchers and institutions that requested it, we have received hundreds of requests, but without a doubt the interest it aroused in MIT made us aware of the powerful weapon we have to help millions of patients around the world. Massive data analysis, predictive modeling, and the development of effective drug therapies are the keys to solving the mysteries of this terrible virus. Only with research and science will we defeat him,

and this agreement, which links us to MIT, is a step in the right direction. ”

For his part, Miguel Ángel Armengol de la Hoz, who coordinates the project as an Affiliate Researcher at MIT, assured that "it is vitally important that health institutions around the world, as has been the case with HM Hospitales in Spain, are committed to normalizing and share their clinical data anonymously and openly with the international research community. By analyzing and studying these data using cutting-edge techniques such as machine learning, we will be able to optimize the treatment that patients receive, improve the predictions of the evolution of each case and improve the knowledge that we have about the behavior of the virus to finally achieve better understand the impact it has on the population. That is why we are working closely with HM Hospitals to better understand the SARS-CoV-2 virus. ”

Chest X-Ray

The main consequence of this agreement is that synergies have started for weeks between the teams at MIT and HM Hospitales. Joint teams of researchers, doctors and engineers from the HM Hospitales Research Foundation and MIT Critical Data, led by Leo Anthony Celi, carry out studies derived from the 'COVID DATA SAVE LIVES' of HM Hospitales.

In fact, deep learning algorithms are already being trained to improve the prediction of COVID-19 patient outcomes using chest x-rays and structured clinical data from 'COVID DATA SAVE LIVES', in particular the use of chest x-rays images of Emergency services of HM Hospitals, to predict the survival of severe COVID-19 patients. "The study will be released in the coming weeks and will be the first of a series of joint collaborations to advance knowledge of COVID-19 applying artificial intelligence and machine learning tools," says Dr. José María Castellano, scientific director of the HM Hospitals Research Foundation.

It is expected that, as a result of this agreement, studies will be carried out that promote knowledge of COVID-19 through massive data analysis. One of them is a retrospective study that is already underway on the impact that various interleukin-6 inhibitor drugs have on the so-called cytokine storm.

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