AI diagnosis system offering powerful support for international prevention and control of COVID-19

May 22 2020, by Liu Jia

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An online AI diagnosis system for COVID-19 has been implemented recently in the China Science & Technology Cloud of Chinese Academy of Sciences (CAS), offering free online diagnostic service for COVID-19 to the world.

According to the real test results in domestic hospitals, it takes six to 15

seconds to upload an adult's lung CT image data (30-50 levels), and takes only 10 to 20 seconds for AI diagnosis.

This AI diagnosis system was jointly developed by the China National Center for Bioinformation (CNCB)/Beijing Institute of Genomics of the CAS, Guangzhou Regenerative Medicine and Health Guangdong Laboratory (Bioisland Laboratory), and the Computer Network Information Center of the CAS.

On April 25, Prof. Zhang Kang from the Bioisland Laboratory published an article in *Cell* concerning clinically applicable AI system for accurate diagnosis, quantitative measurements and prognosis of COVID-19 pneumonia using computed tomography. For this work, CNCB supported online AI diagnosis and provided international sharing service of chest CT images, clinical metadata and codes. Within one week of the data sharing, the downloads have reached over 1.5 million times, among which 36% are from abroad covering 97 countries/regions (U.S. (14%), India (2%), UK, France and Japan (1%, respectively)), with a total data volume exceeding 10 TB.

Since its online on February 25, the AI diagnosis system for COVID-19 has achieved the diagnostic accuracy being over 90% according to double-blind test.

This system has already been put into use in hospitals including the Sun Yat-Sen Memorial Hospital of Sun Yat-Sen University, and Wuhan Jinyintan Hospital. It assists for the rapid identification and diagnosis of COVID-19, lung-lesion segmentation and quantitative measurements, evaluation of drug treatment effects, and prognosis prediction of severe cases, contributing to the clinical treatment and decrease of mortality.

More information: Kang Zhang et al. Clinically Applicable AI System for Accurate Diagnosis, Quantitative Measurements, and Prognosis of

MedicalXpress

COVID-19 Pneumonia Using Computed Tomography, *Cell* (2020). DOI: 10.1016/j.cell.2020.04.045

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