

HY Medical AI, You'an Hospital battle against NCP

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Bringing practical intelligent assistance to the complete process of screening, diagnosis and treatment of the NCP epidemic



Professor Li Hongjun, Chairman of the Professional Committee of Infectious Disease Radiology of the Chinese Medical Association Radiology Branch and Director of the Department of Radiology of You'an Hospital, along with members of the committee worked through the Spring Festival holidays, racing against time to launch the first "Handbook of Medical Imaging Diagnosis of Novel Coronavirus Pneumonia (NCP) (English and Chinese Edition). Under the leadership of Director Li Hongjun, You'an hospital continues to fight the battle to defend the public health. Recently, HY Medical's NCP AI imaging intelligent solution has been stationed in You'an Hospital, bringing practical intelligent assistance to the complete process of screening, diagnosis and treatment of the NPC epidemic.

The coronavirus infection, also known as COVID-19, hit with a relentless fury since its initial outbreak in Wuhan, China. As of Feb 24, 2020, there have been 2,000 reported deaths out of 70,000 infected so far.

Medical imaging plays a crucial role in the diagnosis and treatment of Novel Coronavirus Pneumonia (NCP), from early discovery of lung abnormalities in suspect cases, to confirming diagnosis and/or determining level of progression, from excluding suspect cases through differential diagnosis, to forming and adjusting treatment plans, as well as tracking conditional development and evaluating the final treatment efficacy and outcome.

"Real" AI for real assistance, Fight the epidemic hand in hand

Starting with the algorithm, the HY Medical team collected large amounts of NPC data in real time and obtained precise labelling from a professional panel of doctors to use as the base for their deep learning algorithm. The HY Medical AI system automatically adapts to images from different hospitals, different equipment, and different layer thicknesses, as well as apply self-iteration and model optimizations. The detection and accuracy rate of NPC lesions have reached 96%; combined with technologies such as efficient processors and lightweight network models, it only takes 2-3 seconds to process a CT study with 500 images.

According to on-site personnel, "CT data is but a collection of values used to describe density, CT values alone will not help in determining the various types of indicators in data. Selecting precise labeled data + deep learning algorithm can help demarcate each individual lesion, providing precise contour and volume. AI products play a key role in assisting doctors with their diagnosis, its ability to accurately pin-point the position and identify lesions is of great value in clinical practice."