

HKU-TCL Joint Research Centre for AI Workshop

Speaker:

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Title:

COVID-19 Diagnosis and Prognosis Using CT Images

Abstract:

The chest computed tomography (CT) is a standard and effective tool for disease diagnosis and progression monitoring. We propose a diagnosis and prognosis model for COVID-19 based on graph convolutional networks (GCNs). The chest CT scan of a patient, typically involving hundreds of sectional images in sequential order, is formulated as a densely connected weighted graph. A novel distance aware pooling is proposed to abstract the node information hierarchically, which is robust and efficient for such densely connected graphs. Our method, combining GCNs and distance aware pooling, can integrate the information from all slices in the chest CT scans for optimal decision making, which leads to the state-of-the-art accuracy in the COVID-19 diagnosis and prognosis.