

Speech Title:

Data Mining Theories and Techniques for COVID-19 Diagnosis

Abstract:

COVID-19 is a pandemic disease that caused more than 6.65 million deaths until 12/Dec/2022. X-ray and CT scans are two popular medical imaging techniques used in radiology to get detailed images of the body noninvasively for diagnostic purposes. Traditional manual labeling of X-ray or CT-based scans is tedious and error-prone. To solve the problem, our lab develops new data mining theories and techniques, such as advanced pooling-based networks, graph convolutional networks, attention neural networks, weakly supervised networks, etc. We also use cloud computing techniques to run our developed app on the remote server to help doctors in the suburban area. Two other chest-related diseases: secondary pulmonary tuberculosis and community-acquired pneumonia, will be covered in this talk.

Bio

Prof. Yudong Zhang is a Chair Professor at the School of Computing and Mathematical Sciences, University of Leicester, UK. His research interests include deep learning and medical image analysis. He is the Fellow of IET, Fellow of EAI, and Fellow of BCS. He is the Senior Member of IEEE and ACM. He is the Distinguished Speaker of ACM. He was the 2019, 2021 & 2022 recipient of Clarivate Highly Cited Researcher. He has (co)authored over 400 peer-reviewed articles. There are more than 60 ESI Highly Cited Papers and 5 ESI Hot Papers in his (co)authored publications. His citation reached 23250 in Google Scholar (h-index 84). He is the editor of Neural Networks, IEEE TITS, IEEE TCSVT, etc. He has conducted many successful industrial projects and academic grants from NIH, Royal Society, GCRF, EPSRC, MRC, Hope, British Council, and NSFC. He has served as (Co-)Chair for more than 60 international conferences (including more than 20 IEEE or ACM conferences). More than 50 news presses have reported his research outputs, such as Reuters, BBC, Telegraph, Physics World, UK Today News, etc.

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