YEW TEH JIA
XIAMEN UNIVERSITY, MALAYSIA

Artificial intelligence in pathology – an emerging frontier, opportunities and future directions

Abstract:

The field of pathology involves detailed and meticulous analysis of clinical data, which is presented typically in form of images. These data are then analysed by pathologists to provided diagnosis or prognosis. On the complementary, the field of artificial intelligence in particular machine learning (ML), can be applied into image analysis for supporting clinical analysis. As an example, the following four ML techniques can be applied in support of clinical analysis: image classification, image segmentation, prediction via ML and detection via ML. This talk will provide insights into some application examples of ML in pathology, e.g. anatomic pathology, cytology molecular and clinical pathology. Other possible contributions from the use of ML in pathology are: a) opens new pathways in pathology based research using the four ML techniques mentioned above, b) adoption of ML for diagnosis motivates the creation of more datasets which can be used training ML models to increase both the accuracy and performance of ML models used in both diagnosis and prognosis. Future application objectives in pathology are also discussed.

Biography

Jia-Yew, TEH completed his Ph. D. in 2017 and one of his major research interest lies in the application of AI and ML in areas in which both AI and ML can be employed to improve diagnostic/detection and predication capabilities. Currently, he is applying ML for malware analysis and detection. He was awarded more than RM 350,000 in research grants, both at university and also national levels. He is the Head of Program for undergraduate Computer Science in School of Computing & Data Science, Xiamen University Malaysia.