Cancer detection based on HISTOPATHOLOGY IMAGES on GPU computing resources

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Abstract:

Processing histopathological image is one part of the methods used to identify cancer in the field of anatomic pathology. Pathologists usually conduct an analysis of changes that occur in the cell nucleus in a tissue prior to concluding the status of existences of the cancer. The conventional process takes about 5-6 hours for each sample. The presence of image processing, deep learning techniques and Graphical Processing Units (GPU) provides research opportunities to help the pathologists. Deep learning with a variety of its architectural complexities requires reliable resources so that the training process can be carried out faster and obtain a precise classification model. The presence of a GPU introduces some challenges to research in this field. Using GPU resources can provide up to 16x the acceleration of the training process compared to using a CPU. In this session talk, we will present some progresses of the research on the cancer identification based on the histopathological images. Some part of the results appeared in publications and presented in seminars, and some are still in the preparation