Lung Segmentation in Chest X-rays with Res-CR-Net

Lal, Sinan (School: Port Huron Northern High School)

Deep Neural Networks (DNN) are widely used to carry out segmentation tasks in biomedical images. Most DNNs developed for this purpose are based on some variation of the encoder- decoder U-Net architecture. Here I show that Res-CR-Net, a novel type of fully convolutional neural network, which was originally developed for the semantic segmentation of microscopy images, and which does not adopt a U-Net architecture, is very effective at segmenting the lung fields in chest X-rays from either healthy patients or patients with a variety of lung pathologies.

Awards Won:
Third Award of $1,000