

Title: ULung:A Novel Approach for Lung Image Segmentation**Author Names:** Osim Kumar Pal; Shuvasish Roy; Anup Kumar Modok; Tajmihir Islam Teethi; Siddhartha Kumer Sarker

Abstract: ULung is an innovative medical technology used for segmenting medical images in pulmonary diagnostics. It introduces a modified approach to analyzing and understanding pulmonary conditions. ULung employs cutting-edge deep learning and image processing techniques to isolate intricate characteristics in medical lung images properly. The model uses advanced convolutional neural network architecture as UNet layer structure to detect abnormalities and delineate anatomical regions reliably. ULung exhibits versatility in handling various lung ailments after extensive training using diverse datasets. The innovative methodology ensures enhanced segmentation performance, enhancing diagnostic precision and expediting medical evaluations. The advent of ULung has greatly enhanced medical imaging, providing clinicians with a potent tool for precise and expeditious lung evaluation. ULung is an impressive advancement in medical image segmentation that can revolutionize standards in respiratory healthcare due to its robustness and adaptability. The model's accuracy achieved using EfficientNetV2 is 99%, while its precision and recall rates are 98% and 96%, respectively. The model achieves a Mean Intersection over Union (MeanIoU) of 91.48% after the 14th epoch.

Keywords: Training , Image segmentation , Adaptation models , Lung , Transforms , Robustness , Artificial intelligence

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