

Multi-class Segmentation of Organ at Risk from Abdominal CT Images: A Deep Learning Approach



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Abstract Medical imaging segmentation is an essential technique for modern medical applications. It is the foundation of many aspects of clinical diagnosis, oncology and computer-integrated surgical intervention. Although significant successes have been achieved in the segmentation of medical images, however deep learning methods typically involve vast quantities of well-noted data, which can be challenging in medical image processing. Many approaches have been developed on the ISBI SegTHOR dataset but do not fix imbalanced groups of certain organs with comparatively limited pixels compared to others. We need to build a deep learning system using encoder and decoder technique to segment CT images using transfer learning with EfficientNetB7. The proposed solution explicitly resolves imbalanced class pixels accurately for the segmentation of OARs.

Keywords Computed tomography · Machine learning · Deep learning · Convolutional neural network · Organ at risk

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degree of imprecision, leading to missing tumor areas or a safe tissue attack. Our proposed deep learning model aims explicitly to address imbalanced class pixels accurately for the segmentation of OARs. The suggested solution segments organs accurately in CT scan images.

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