
Liver disease detection using CT images and R2U-NET algorithm

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The Computed Tomography (CT) scan pictures are one of the most helpful tools for diagnosing unusual regions in the liver. These pictures can be used to identify abnormal areas of the liver and width of these areas in numerous clinical applications. Manual and customary clinical testing needs a lot of experienced pathologists and tedious interaction. Computer helps in distinguishing pieces of proof which will further create and develop clinical testing proficiency by identifying low accuracy and deficient determination calculations. This paper proposes a Recurrent Residual U-Net (R2U-Net) algorithm to classify the segmented liver. The experiments were led in CT liver pictures that are available in clinic's picture chronicling and kaggle datasets. Experiments have been carried out with a dataset of 400 liver CT pictures. This dataset contains 200 liver CT pictures of patients with healthy liver and 200 liver CT pictures showing unhealthy liver. Finally, the proposed method accomplished average accuracy, precision, sensitivity, specificity, and F1-score values of 85.83%, 86.46%, 81.66%, 88.67%, and 95.23%, respectively.

Keywords: Deep learning, liver detection, R2U-Net, morphology, Kaggle.

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