

False Positive Reduction for Lung Nodule

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We are sorry that we could only provide limited description, because we are applying patent copyright for this solution.

For the false positive reduction problem of the LUNA16 Challenge, We carefully design a 3D convolutional network (3D CNN). Compared with 2D Method [2], the 3D CNN can encode richer spatial information and extract more representative features via its hierarchical architecture [1]. Furthermore, we propose several promoting strategies in data preprocessing, network designing and model training phase. These strategies are very helpful to deal with the nodule size variations and the class imbalance problem.

The evaluation of submission is based on 10-fold cross validation using the provided dataset. Importantly, we only need to train a single model in every fold while other methods usually use an ensemble of several models to achieve a high score. The results show that our model is very robust and the proposed method is quite efficient.

REFERENCES

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