

Weekly Report

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December 17, 2017

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The tasks I have finished this week

For the mid-term examinations of some courses, I don't make some progresses this week.

This week, I read article [Mask R-CNN](#) and understand the framework of the article.

I also figure out some bugs appeared in the 2nd stage of Faster R-CNN. I try to replace the NMS step in Faster R-CNN by using [Focal Loss](#) part to solve the imbalance of positive and negative samples problem, which is the main problem NMS method tries to solve. But I find that the NMS also solves an important engineer problem, which is the `out of memory` problem, and focal loss part is restricted by this problem. So, I think that if we want to extend the Object Detection Net into 3D, I have to realize the 3D NMS with cuda. It is not a difficult problem, but may takes some time.

The tasks I plan to do next week

With the guidance of Professor Danny Chen, Next week, I will do some researches on the **lung nodule detection and classification** problem with our fresh and accurate dataset from *Shanghai Pulmonary Hospital*.

I will also spend some time reviewing for the final exam, for the up coming exam week.