Based on yolov5s6

When we roughly scan the data image, we find the size of target is quite small compared with size of images (targets are normally 20\*20 whereas images are 1280\*760).

使用这个模型的原因，我猜大概是因为检测层的anchor比原先版本的要多一个。

Self-Attention mechanism

We also apply self-attention (both Channel attention and spatial attention)here. It’s hard to tell where the optimal place is to replace convolutional part with it. So, we use cross-validation to check.

Augmentation

This series of images are underwater images. So, it turns out to be that all the images are quite ’blue’’. To enhance the images, the first thing we tried is to remove the ‘blue’. We use a package called underwater augmentation. The link is :

Train-valid

We have 20000 images in total, but only ¼ of them contains targets. To have more training data to do validation, we keep a copy of the original data. Then we use the augmentation above to generate 8000 more. Then with other yolo built-in augmentation, we can for sure have larger data.

Bounding-Box

There is one more thing need to be done. The shape of bounding box. For better result, we need to check whether the size of bounding box can match the settings of anchor. Luckily, for this assignment, we don’t need to do something else.

The final rank of this competition is 378/2078.