PhD

Focal Loss for Dense Object Detection ax180207

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Introduces a scaled version of the entropy loss that reduces the weight given to high confidence training examples so that the training process is not overwhelmed by easy to classify negative examples which is very common in detector training because of was the majority of tested bonding boxes belong to the background which is also usually very easy to classify;

applies it on a single stage network inspired from existing ones like FPN, RPN and SSD

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Retina net architecture itself has FPN applied on top of resnet followed by 2 subnetworks for classification and box regression where both have identical architectures but do not share parameters;

It seems that FPN is crucial to getting the improved performance which flies in the face of the claim that focal loss is the one that is responsible

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The best possible model seems to be getting an MAP of about 40% which is only about 5% more than and the previous best and it is definitely not significantly better than faster rcnn though it is single stage so supposedly better that way but again in terms of speed it does not seem to be significantly faster though its memory usage remains to be seen;