# 论文图片中定位公式位置

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Abstract

#### 1 背景介绍

在处理论文图片中定位公式位置这个问题上,我们想到了两种不同的方法。首先是直观的使用目标检测方法来定位公式的位置。在目标检测这个经典问题上

#### 2 数据处理

#### 3 网络结构与算法

relu 激活 conv1, pool1, conv2, pool2, spp, fc 阶梯衰减学习率过拟合, 正则化滑动平均 spp lrn batch\_normalization 批标准化 sigmoid cross entropy loss

[2] [4] [1] [7] [3] [6] [5]

#### 4 结果分析

#### References

- [1] Ross B. Girshick. Fast R-CNN. CoRR, abs/1504.08083, 2015.
- [2] Ross B. Girshick, Jeff Donahue, Trevor Darrell, and Jitendra Malik. Rich feature hierarchies for accurate object detection and semantic segmentation. *CoRR*, abs/1311.2524, 2013.
- [3] Kaiming He, Georgia Gkioxari, Piotr Dollár, and Ross B. Girshick. Mask R-CNN. CoRR, abs/1703.06870, 2017.
- [4] Kaiming He, Xiangyu Zhang, Shaoqing Ren, and Jian Sun. Spatial pyramid pooling in deep convolutional networks for visual recognition. CoRR, abs/1406.4729, 2014.
- [5] Wei Liu, Dragomir Anguelov, Dumitru Erhan, Christian Szegedy, Scott E. Reed, Cheng-Yang Fu, and Alexander C. Berg. SSD: single shot multibox detector. CoRR, abs/1512.02325, 2015.
- [6] Joseph Redmon, Santosh Kumar Divvala, Ross B. Girshick, and Ali Farhadi. You only look once: Unified, real-time object detection. CoRR, abs/1506.02640, 2015.
- [7] Shaoqing Ren, Kaiming He, Ross B. Girshick, and Jian Sun. Faster R-CNN: towards real-time object detection with region proposal networks. CoRR, abs/1506.01497, 2015.