Title

Abstract

1 Introduction

- First,
- Second,

2 Related Work

In this section, we briefly review ...

3 Proposed PRNN Model

In this section, we introduce our proposed model **Model name**. We first present the notation and the problem definition, then detail the proposed model throughly. Finally we demonstrate the ....

3.1 Problem Definition

3.2 Our Proposed Model

4 Experiments

We test our model on ... datasets and compare our approach with .... Besides, we study how different factors influence the performance with several ablation studies.

4.1 Datasets and tasks

- **PASCAL VOC 2007/2012**
- **ImageNet**
  - ILSVRC
  - Classification
  - Localization
- **Microsoft COCO**
  - Object Detection
  - Segmentation
- **CIFAR-10**
  - Classification

4.2 Protocols

What's protocol? Is it some data detail, such as store space, dimension and properties?

- **TODO**

4.3 Metrics

In this section, we will introduce some metrics used in forementioned detection datasets and tasks.

- **mean Average Precision(mAP**$[.5, .95]$**)**
- **recall@K(top@K error)**
- **FP, TP, RoC and AuC**
- **Intersection-over=Union (IoU) overlap**
- **Parameterizations of something** E.g. Parameterization of proposal rectangle in Faster R-CNN
- **FLOPs and params** Multiplication-adds
- **speed up** E.g. $13\times$ actual speed up.

4.4 Hyper-parameter

Training setting will be detailed in this section.

- **Initialization** The XXXNet can be trained end-to-end by backpropagation and *stochastic gradient descent(SGD)*. Draw weight from zero-mean *Gaussian distribution* with standard deviation 0.01.
- **Batching, sampling and Pruning** The sampled positive and negative samples have a ratio of up to $1:1$. The models are trained for up to 60×10^4 iterations.
- **Optimizer/Solver** We use a *weight decay* of 0.01 and a *learning rate* of 0.001. We use *momentum* for the first 60w data. *Learning rate* starts from 0.1 and is divided by 10 when the error *plateaus*. We use or not use *Dropout*.
- **Implementation platform** Our implementation uses Caffe/ TensorFlow etc.[C]

4.5 Method Comparison

$\triangle$ of percentge some metric could also be used to highlight the improvement on performance.

The methods in comparation and their settings are listed as follows:

- **Benchmark 1** is a well know method for ...

Results Results of all methods are illustrated in Tables [R], respectively, from which we can see that performance

4.6 Ablation Studies

The core idea of XXXNet lies in *Aspect A*, *Aspect B* and *Aspect C*, referenced in Sections [R]and [R]. In this subsection, we evaluate them respectively.

Aspect A

Aspect B

Aspect C

5 Conclusions

References