# FCOS: Fully Convolutional One-Stage Object Detection

## Introduction

```
@article{tian2019fcos,
  title={FCOS: Fully Convolutional One-Stage Object Detection},
  author={Tian, Zhi and Shen, Chunhua and Chen, Hao and He, Tong},
  journal={arXiv preprint arXiv:1904.01355},
  year={2019}
}
```

## Results and Models

| Backbone | Style | GN | MS train | Lr schd | Mem (GB) | Train time (s/iter) | Inf time (fps) | box AP | Download |
|---|---|---|---|---|---|---|---|---|---|
| R-50 | caffe | N | N | 1x | 5.5 | 0.373 | 13.7 | 35.7 | model |
| R-50 | caffe | Y | N | 1x | 6.9 | 0.396 | 13.6 | 36.7 | model |
| R-50 | caffe | Y | N | 2x | - | - | - | 36.9 | model |
| R-101 | caffe | Y | N | 1x | 10.4 | 0.558 | 11.6 | 39.1 | model |
| R-101 | caffe | Y | N | 2x | - | - | - | 39.1 | model |

| Backbone | Style | GN | MS train | Lr schd | Mem (GB) | Train time (s/iter) | Inf time (fps) | box AP | Download |
|---|---|---|---|---|---|---|---|---|---|
| R-50 | caffe | Y | Y | 2x | - | - | - | 38.7 | model |
| R-101 | caffe | Y | Y | 2x | - | - | - | 40.8 | model |
| X-101 | caffe | Y | Y | 2x | 9.7 | 0.892 | 7.0 | 42.8 | model |

**Notes:**

- To be consistent with the author's implementation, we use 4 GPUs with 4 images/GPU for R-50 and R-101 models, and 8 GPUs with 2 image/GPU for X-101 models.
- The X-101 backbone is X-101-64x4d.