

GluonCV

Tong He Applied Scientist, Amazon Web Services. 2018.12.17

GluonCV: A Vision Toolkit

- State-of-the-Art Models
- Fast Development
- Easy Deployment
- Official Maintainance



The Best Open-Source Choice

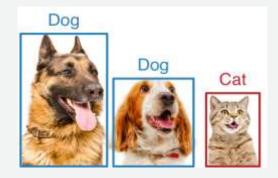
- Pretrained Models with the Best Accuracy
- Most Comprehensive Model Zoo



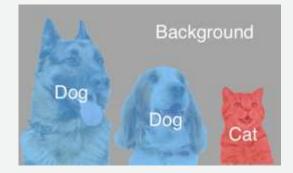
Classification



Detection



Segmentation



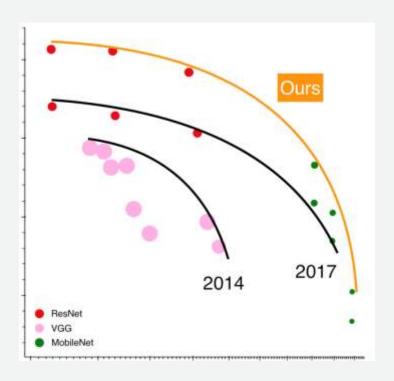


• Classification

| Model | Ours | Reference |
|------------|-------|-----------|
| ResNet-50 | 79.2% | 76.2% |
| ResNet-101 | 80.5% | 77.4% |
| MobileNet | 73.3% | 70.9% |



• Classification



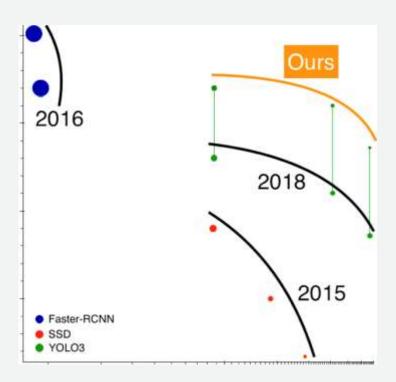


• Detection

| Model | Ours | Reference |
|-------------|-------|-----------|
| Faster-RCNN | 40.1% | 39.6% |
| YOLOv3 | 37.0% | 33.0% |



• Detection





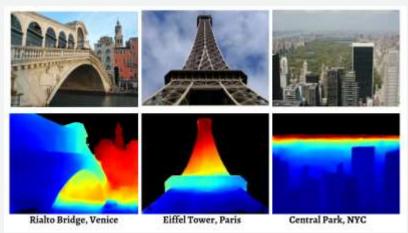
• Segmentation

| Model | Ours | Reference |
|------------|-------|-----------|
| Mask-RCNN | 33.1% | 32.8% |
| DeepLab-v3 | 86.7% | 85.7% |



- Available
 - Classification
 - Detection
 - Segmentation
 - Re-ID
 - GAN
- In-Development
 - Keypoint detection
 - Depth prediction

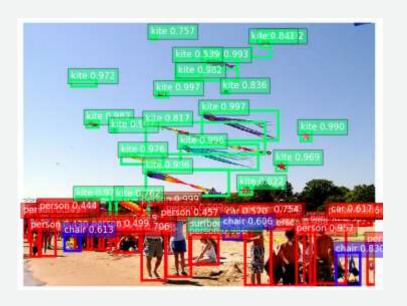






Demo

Detection



• Segmentation





Demo

WGAN



• Person Re-ID





Getting Started

- Gluon CV: https://gluon-cv.mxnet.io
- Gluon NLP: https://gluon-nlp.mxnet.io
- MXNet: http://beta.mxnet.io/
- Deep Learning Book: http://diveintodeeplearning.org

