
Train YOLO to Detect Custom Objects

Mahrang Saeed
Haoyuan Wang
Xunan Dai

• 05.09.2019

Overview

Project progress

- Dataset Hunting
- Door Pictures labeling
- Darknet Training

Challenges

- Installing Softwares
 - Computing Power/Time Frame
-

Progress - Dataset Preparing

Accomplishment 1

- Finding door dataset
- Reference: *MCIndoor20000*:
A fully-labeled image dataset to advance indoor objects detection

by Fereshteh S.Bashiriab

Eric LaRoseb

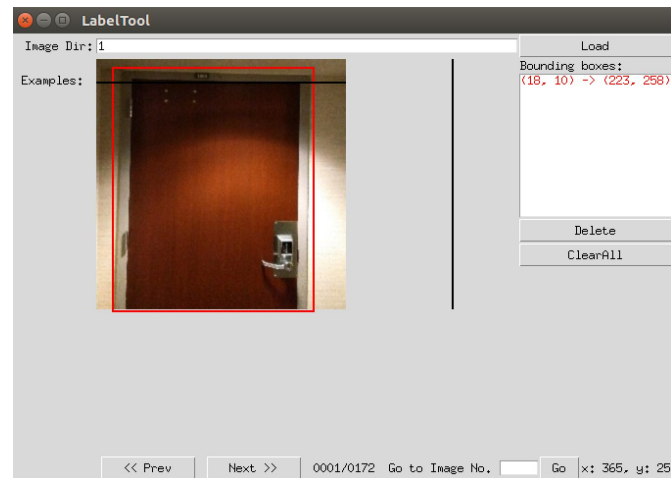
Peggy Peissigb

Ahmad P. Tafti



Accomplishment 2

- **BBox Label Tool** to annotate the doors in training images



Progress - Preparing Configuration Files:

Accomplishment 1

- Configuration files:
makefile
obj.data
obj.names
yolo-obj.cfg
- Label Text files:
train.txt
test.txt

Accomplishment 2

- Training module

./darknet detector train cfg/obj.data
cfg/yolo-obj.cfg
darknet19_448.conv.23

Challenges

Challenge 1

- Installing Softwares
- Windows/Linux:
 - CMake ≥ 3.8 for modern CUDA support
 - CUDA 10.0:
 - cuDNN ≥ 7.0 for CUDA 10.0
 - OpenCV ≥ 2.4

Challenge 2

- Computing Power/Timeframe
 - Hardware: GPU with CC ≥ 3.0
 - Training 60 images on Google Colab: 2 hours/epoch
-

Trials

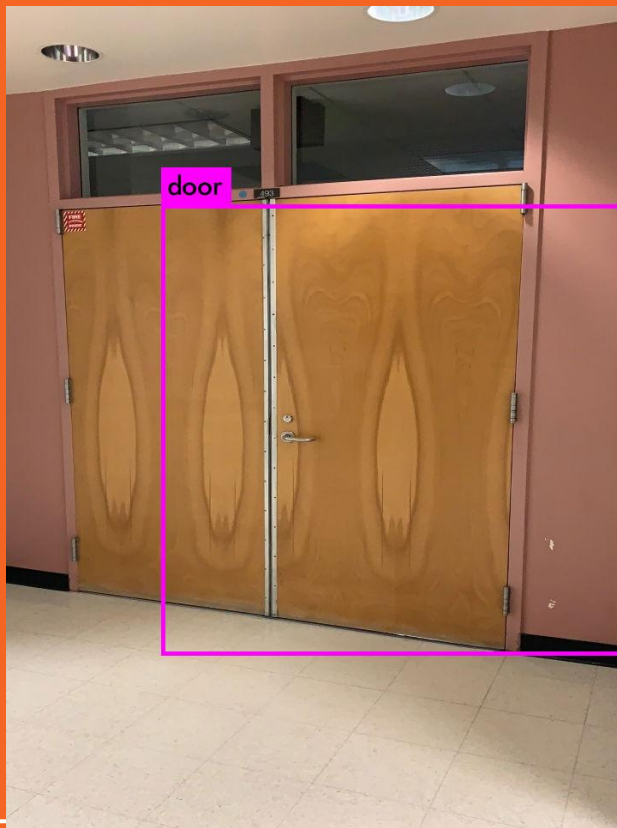
- 60 images
 - Single image
 - 3 images
-

DEMO

door



door



door



References

YOLO object detection with OpenCV - Adrian Rosebrock

How to train YOLOv2 to detect custom objects - Nils Tijtgat

MCIndoor20000: A fully-labeled image dataset to advance indoor objects detection
