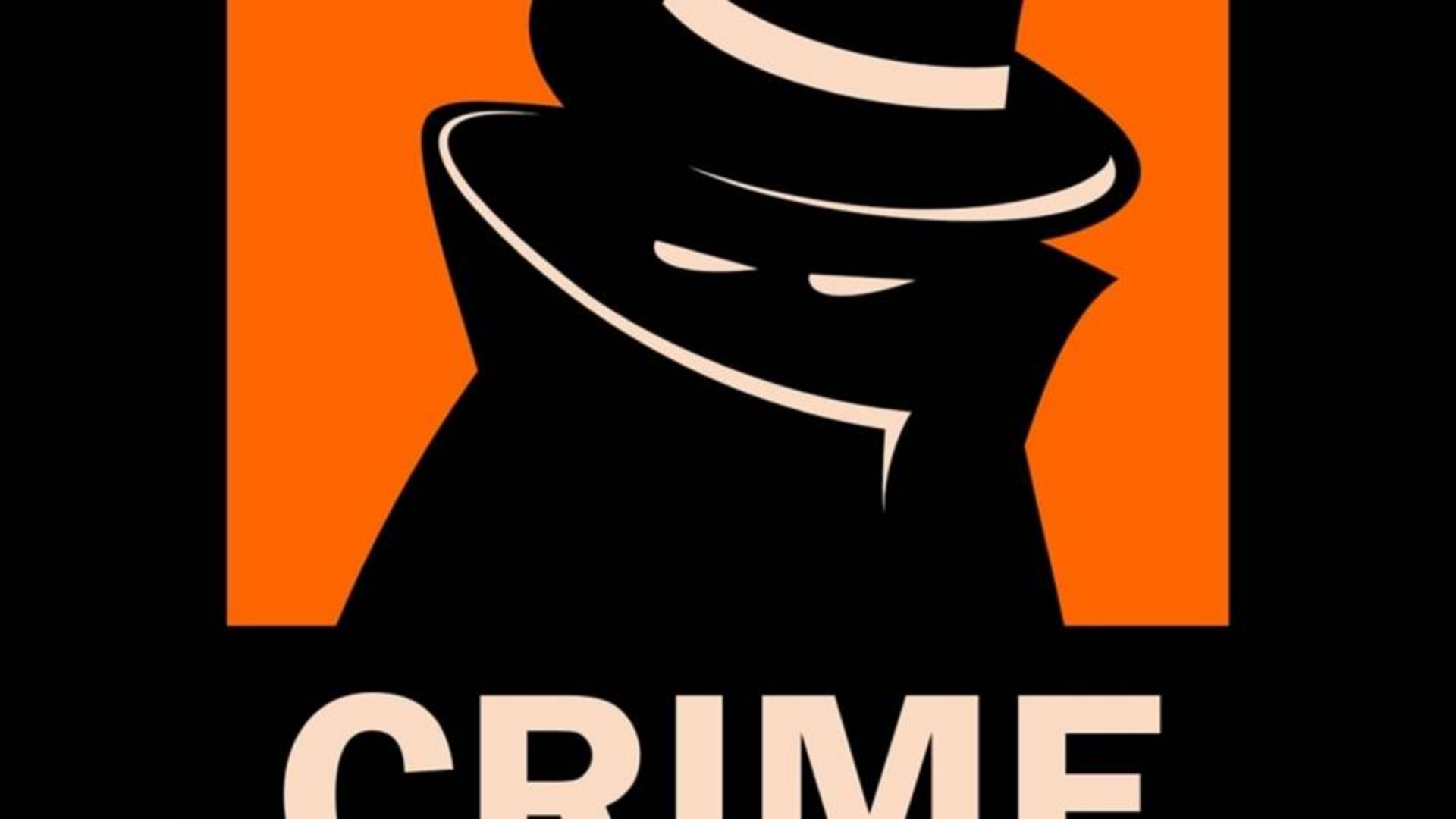
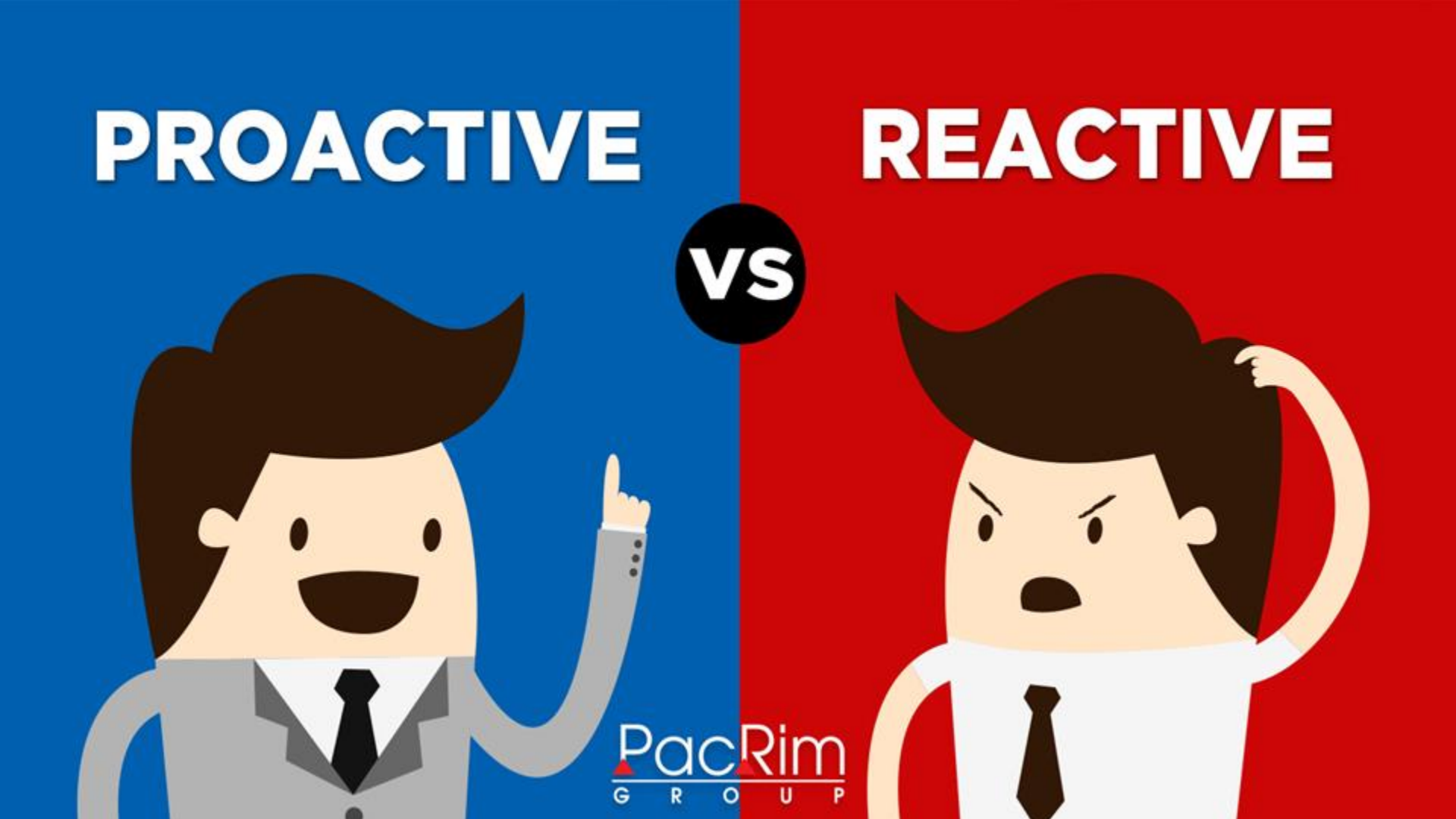

CRIME


PROACTIVE
VS
REACTIVE
PacRim
GROUP

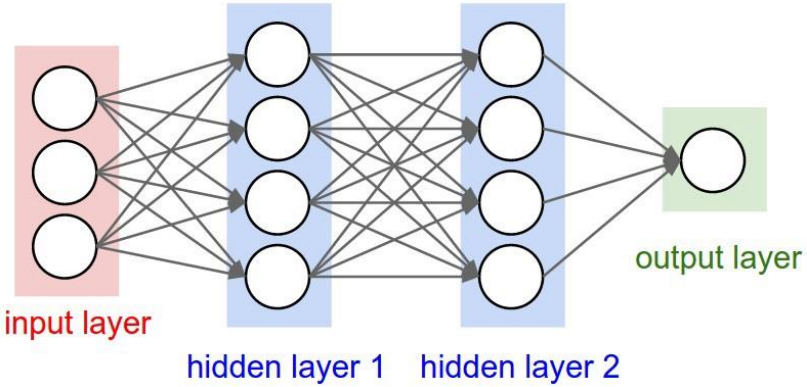
Process flow

Side-technology:
Team collaboration on GitHub
https://github.com/BADS-NIDA/images-analytics

Choosing Algorithm

Goal: Good precision and Fast Detection

<



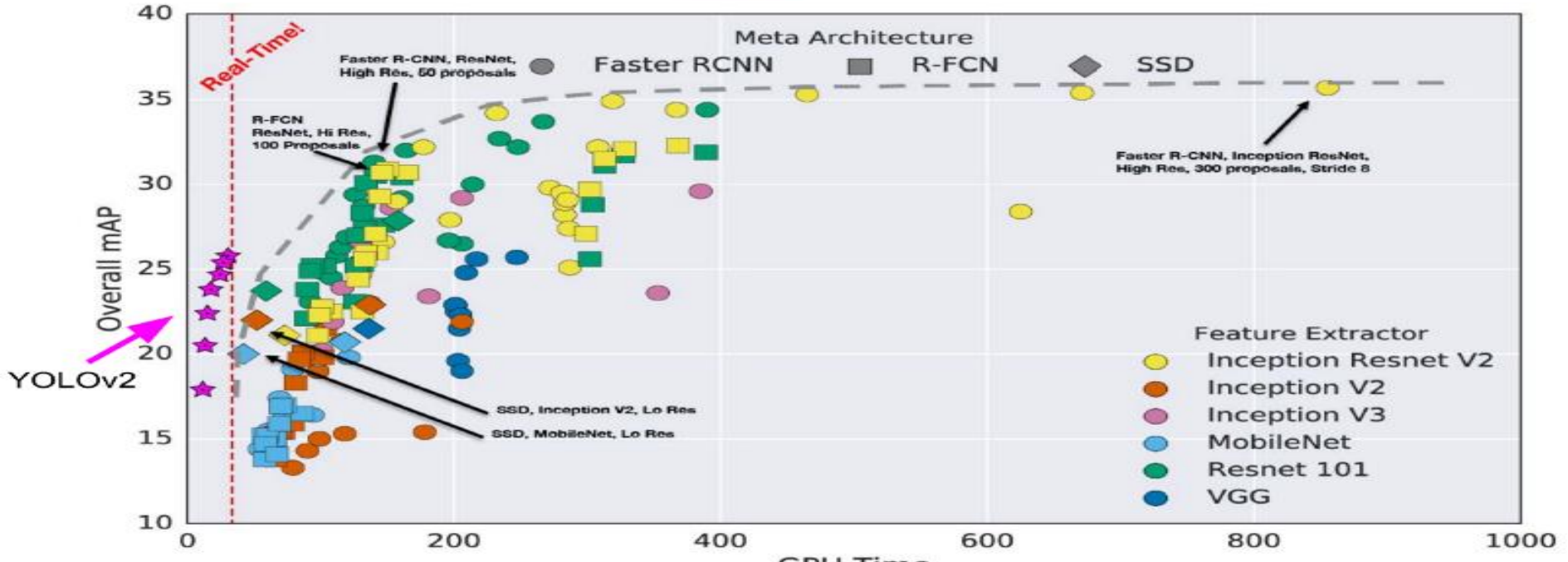
YOLO V2

Choosing Algorithm

Speed!!!

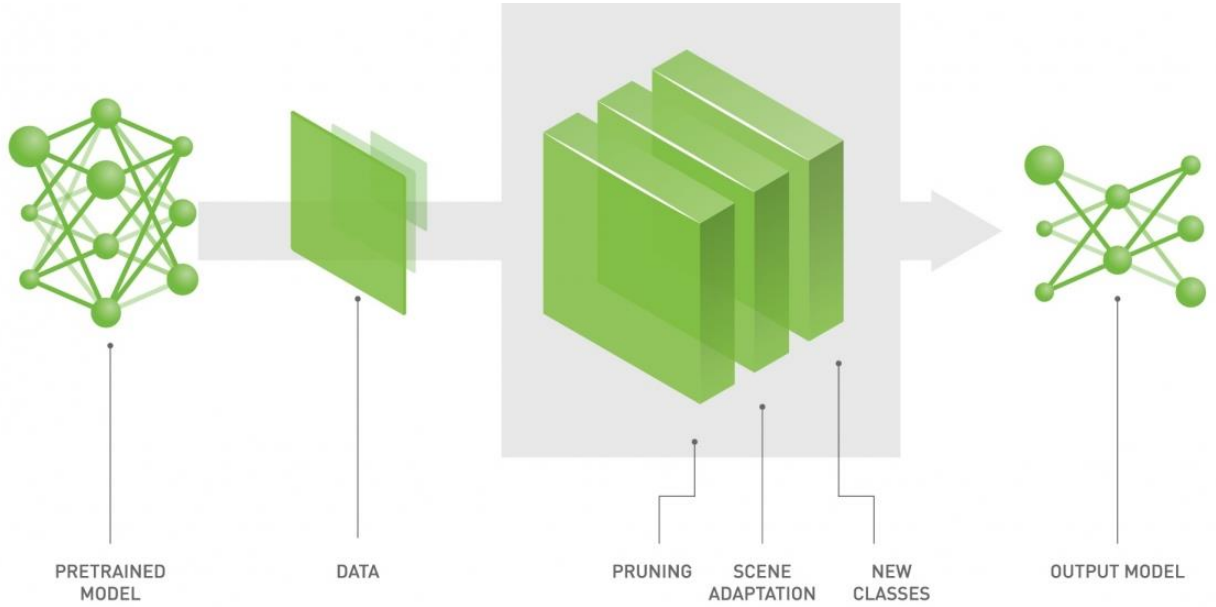
R-CNN

< YOLO V3 < YOLO V2



Choosing Algorithm

Task Challenge: No interested class label → Transfer learning



Acquiring Data

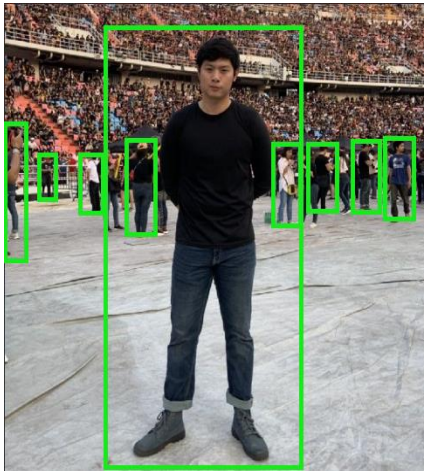
IMAGENET

python™

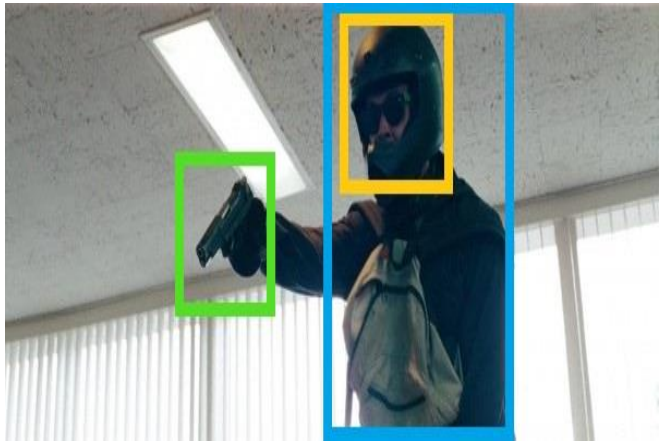
NumPy

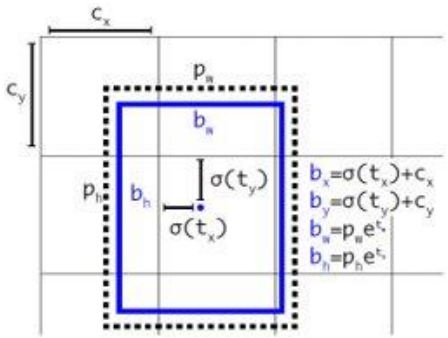
BeautifulSoup

Data Preparation



```
<annotation>
  <folder>images</folder>
  <filename>helmet503.jpg</filename>
  <segmented>0</segmented>
  <size>
    <width>1280</width>
    <height>720</height>
    <depth>3</depth>
  </size>
  <object>
    <name>helmet</name>
    <pose>Unspecified</pose>
    <truncated>0</truncated>
    <difficult>0</difficult>
    <bndbox>
      <xmin>948</xmin>
      <ymin>296</ymin>
      <xmax>1063</xmax>
      <ymax>405</ymax>
```

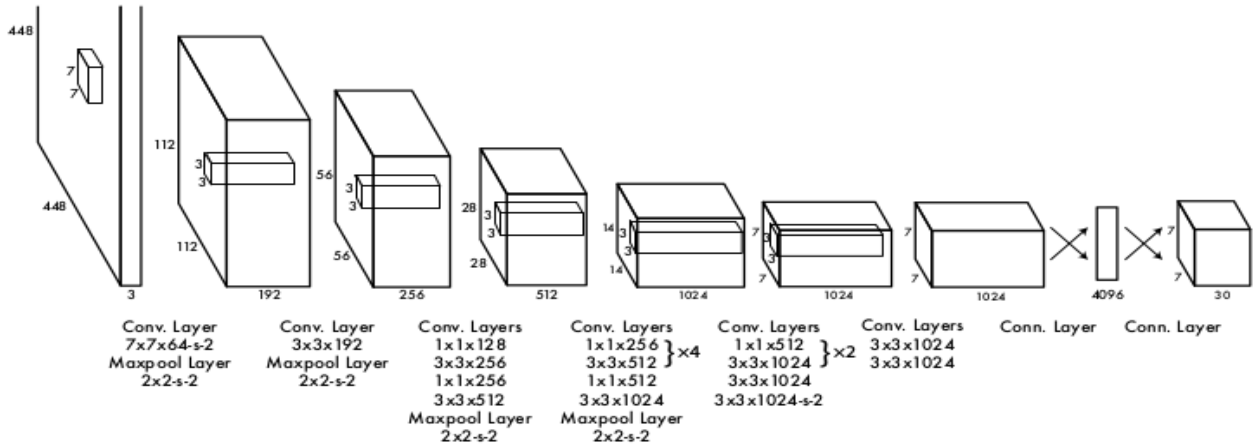




Training Model

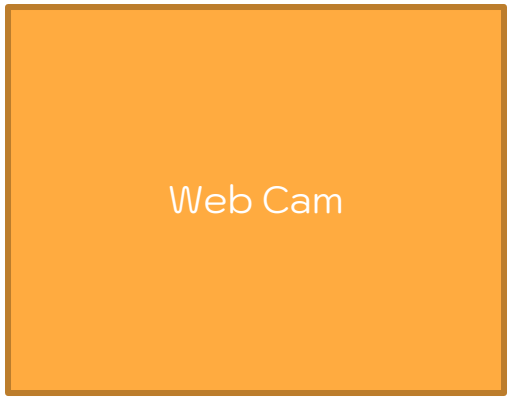
Darkflow : Implementation of Darknet-YOLO framework with Python TensorFlow

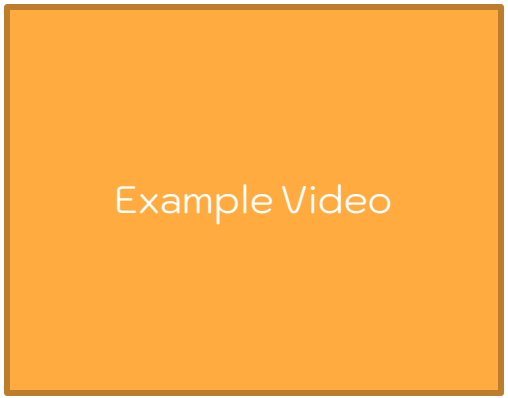
TensorFlow: Python3.6, CUDA toolkit 9.0, cuDNN 7.4.2, TensorFlow 1.10



Pretraining model: VOC weight, tiny-yolo configuration

Results





Problems	Solutions	Improvements
• Tensorflow-gpu requirements - CUDA, cuDNN versions	• conda install specific version - Seperated environment - CUDA, cuDNN, tensorflow	• Tracking
• Darknet on windows.	• Darkflow	• Use only helmet full face to train model for better performance
• Acquiring data - ImageNet - Google web scrape	• Multiple sources/keywords	• Add Other face covering object, such as black glasses, mask
• No data with annotations	• BBox Label Tools	• Add other weapon object such as knife, baseball bat
• Low accuracy, false alarm	• More and clean data	
• Limited computing power	• Tiny Yolo	
• Annotation format	• XML	

https://github.com/BADS-NIDA/images-analytics

รายชื่อสมาชิกกลุ่ม

นายนราชันย์ ปัญญาจักร	61104220029
นายชลัช มงคลถิรภัทร์	61104220032
นายอติเทพ กิติธีระกุล	61104220047
นายธนา ธารารัตน์พิสัย	61104220054
นายยงยุทธ ละมูลมอญ	61104220055