YOLOv5 Inference Python Script

This Python script runs inference on images using a trained YOLOv5 model.

How to use:

1. Put your trained model weights file path in the 'weights' variable.
2. Place images for detection in the folder specified by 'source' (default: data/images).
3. Run this script using: python run\_yolov5.py
4. The script will display detected objects and save images with bounding boxes in 'runs/detect/'.

Requirements:

* + torch
  + opencv-python
  + yolov5 repo (for torch.hub)

import torch

from pathlib import Path import cv2

def run\_inference(weights\_path, source\_folder, conf\_threshold=0.25, save\_results=True): # Load YOLOv5 model from pretrained weights

model = torch.hub.load('ultralytics/yolov5', 'custom', path=weights\_path, force\_reload=Tru

# Set confidence threshold model.conf = conf\_threshold

# Get list of image files

image\_paths = list(Path(source\_folder).glob('\*.\*')) print(f"Found {len(image\_paths)} images for inference.")

for img\_path in image\_paths:

img = cv2.imread(str(img\_path)) if img is None:

print(f"Failed to load image {img\_path}") continue

# Run inference

results = model(img)

# Print detected objects print(f"Results for {img\_path.name}:")

print(results.pandas().xyxy[0]) # pandas dataframe with bbox info

# Show image with bounding boxes results.show()

# Save results image with detections if save\_results:

save\_path = Path("runs/detect") / img\_path.name results.save(save\_dir=save\_path.parent) print(f"Saved detection image to {save\_path}")

if name == " main ":

weights = "runs/train/yolov5\_coco\_run/weights/best.pt" # change path if needed source = "data/images" # folder with input images

run\_inference(weights, source)