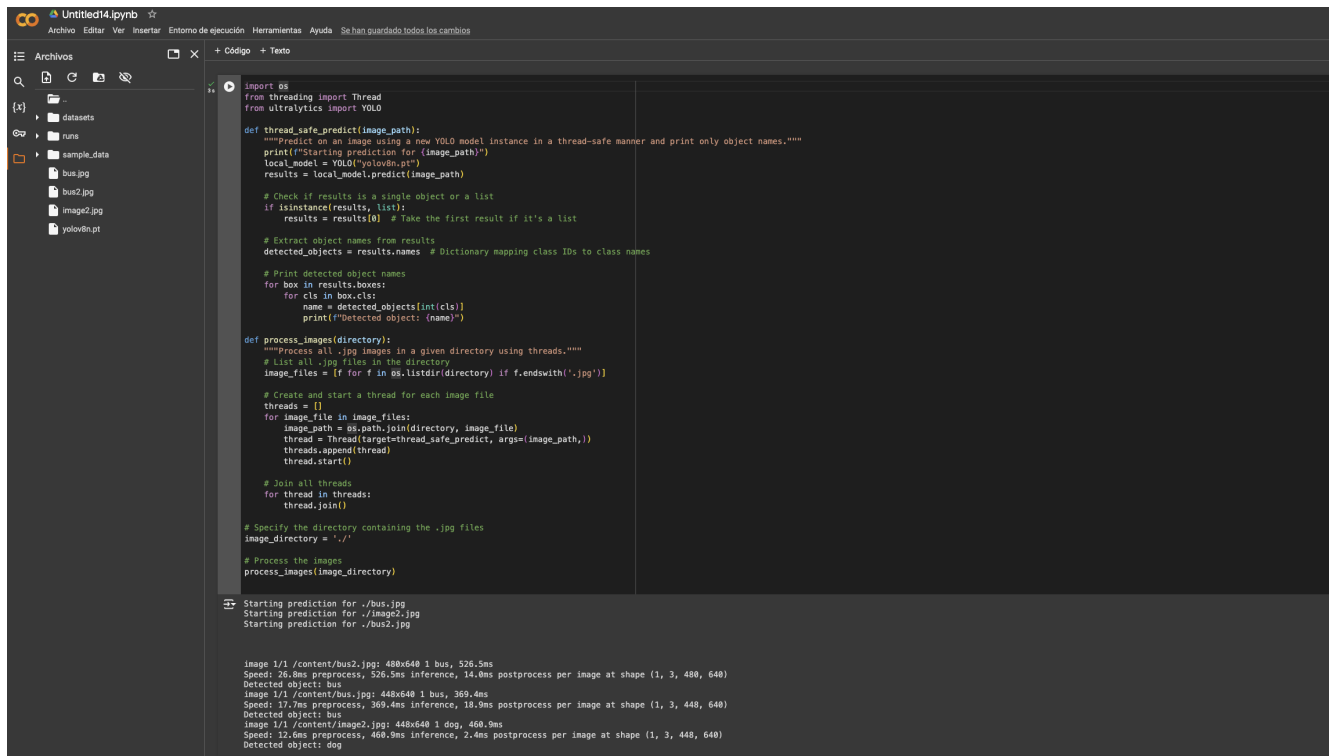


Predicción concurrente de objetos en imágenes usando YOLO y hilos en Python

[crayon-6a9d4efce1caf898159945/]



The screenshot shows a Jupyter Notebook titled 'Untitled14.ipynb'. The left sidebar displays a file explorer with a directory structure: 'datasets', 'runs', 'sample_data', 'bus.jpg', 'bus2.jpg', 'image2.jpg', and 'yolov8n.pt'. The main area contains Python code for concurrent object detection using YOLO and threading.

```
import os
from threading import Thread
from ultralytics import YOLO

def thread_safe_predict(image_path):
    """Predict on an image using a new YOLO model instance in a thread-safe manner and print only object names."""
    print(f"Starting prediction for {image_path}")
    local_model = YOLO("yolov8n.pt")
    results = local_model.predict(image_path)

    # Check if results is a single object or a list
    if isinstance(results, list):
        results = results[0] # Take the first result if it's a list

    # Extract object names from results
    detected_objects = results.names # Dictionary mapping class IDs to class names

    # Print detected object names
    for box in results.boxes:
        for cls in box.cls:
            name = detected_objects[int(cls)]
            print(f"Detected object: {name}")

def process_images(directory):
    """Process all .jpg images in a given directory using threads."""
    # List all .jpg files in the directory
    image_files = [f for f in os.listdir(directory) if f.endswith('.jpg')]

    # Create and start a thread for each image file
    threads = []
    for image_file in image_files:
        image_path = os.path.join(directory, image_file)
        thread = Thread(target=thread_safe_predict, args=(image_path,))
        threads.append(thread)
        thread.start()

    # Join all threads
    for thread in threads:
        thread.join()

# Specify the directory containing the .jpg files
image_directory = './'

# Process the images
process_images(image_directory)
```

The output of the code shows the following results:

```
Starting prediction for ./bus.jpg
Starting prediction for ./image2.jpg
Starting prediction for ./bus2.jpg

Image 1/1 /content/bus2.jpg: 480x640 1 bus, 526.5ms
Speed: 26.8ms preprocess, 526.5ms inference, 14.0ms postprocess per image at shape (1, 3, 480, 640)
Detected object: bus
Image 1/1 /content/bus.jpg: 448x640 1 bus, 369.4ms
Speed: 17.7ms preprocess, 369.4ms inference, 18.9ms postprocess per image at shape (1, 3, 448, 640)
Detected object: bus
Image 1/1 /content/image2.jpg: 448x640 1 dog, 460.9ms
Speed: 12.6ms preprocess, 460.9ms inference, 2.4ms postprocess per image at shape (1, 3, 448, 640)
Detected object: dog
```