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Description & Purpose

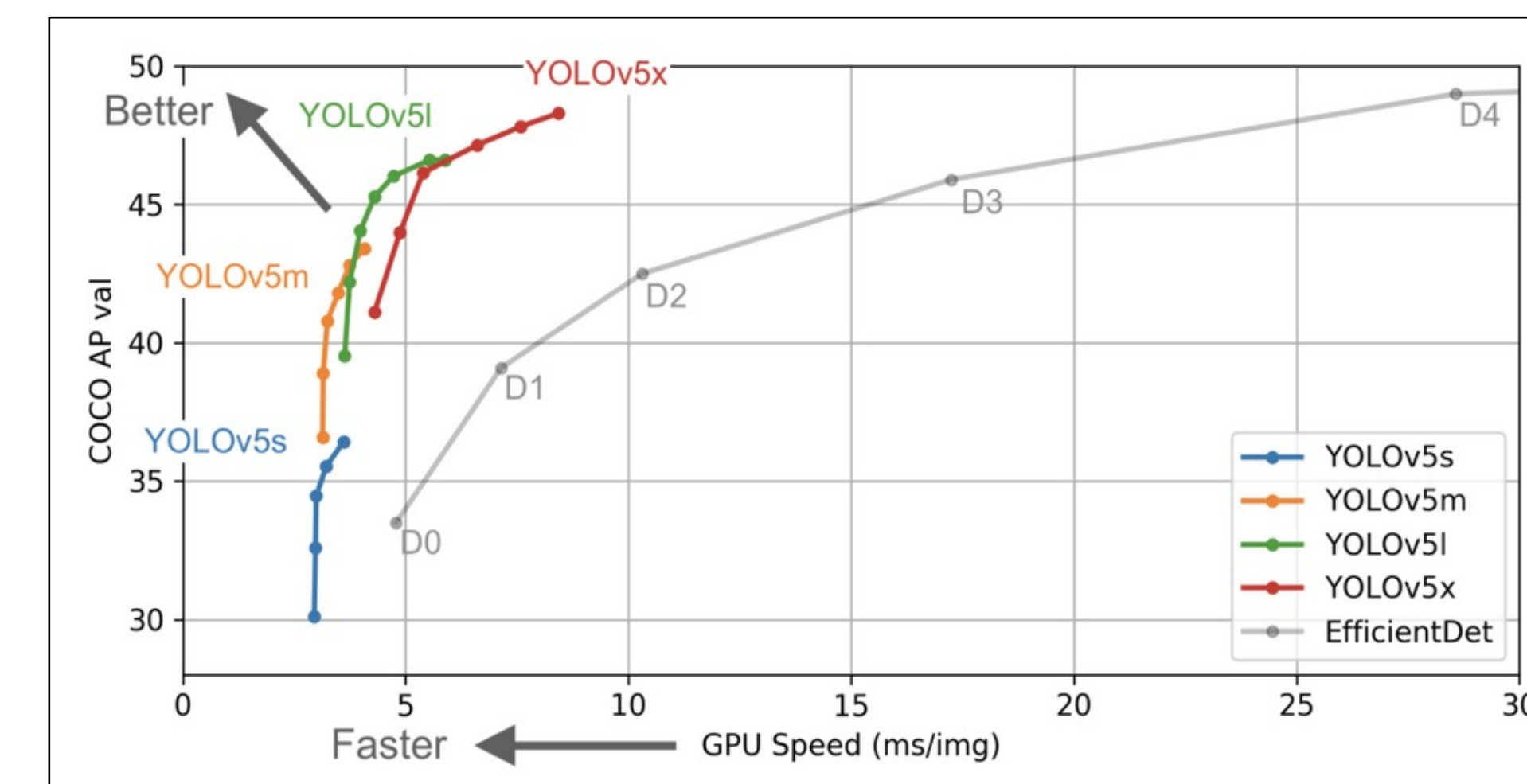
- Our app aims to save drivers time by providing accurate parking space availability information, avoiding unnecessary loops and trips around the KU parking garage.
- Additionally, our app provides important information such as required parking permits, blackout dates, and a map of KU parking lots.



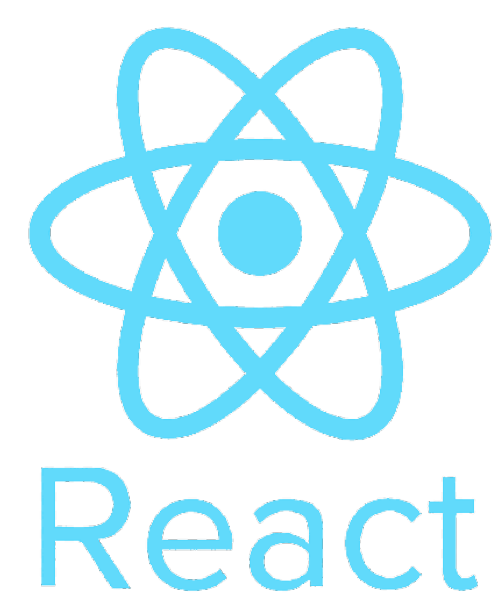
```

# Loop through the loop for the detection of front and back
for filename in os.listdir(img_dir):
    if filename.endswith(('.jpg', '.png')):
        img_path = os.path.join(img_dir, filename)
        results = model_yolo(img_path)
        detected_objects = results.pandas().xyxy[0].value_counts('name')
        if "front" in detected_objects:
            front_count = detected_objects.get('front', 0)
            detected_cars['front'] = {
                "direction": "entering",
                "count": front_count
            }
            total_cars_per_level += front_count
        elif "back" in detected_objects:
            back_count = detected_objects.get('back', 0)
            detected_cars['back'] = {
                "direction": "exiting",
                "count": back_count
            }
            total_cars_per_level -= back_count
        else:
            detected_cars[filename] = {
                "direction": "unknown",
                "count": 0
            }
            total_cars_per_level += 0
    # print the detected sides for each image
    for filename, car_data in detected_cars.items():
        print(f'{filename}: {car_data["direction"]}')
    return jsonify({"total_cars_per_level": total_cars_per_level})
if __name__ == "__main__":
    app.run(debug=True)

```



Design



{REST:API}



YOLOv5



- App makes a request via REST API.
- YOLOv5 model runs predictions on videos and returns the car count back to the app.

Ethical & Intellectual Property Issues

- Ensure privacy and security of footage to comply with relevant laws.
- Consider accuracy of data and ownership of the technology used to capture it.
- Ensure accessibility and equity for all users, regardless of technological capabilities or disabilities.