

Abstract geometric lines in the top-left corner of the slide, consisting of several thin black lines forming various polygons and intersecting at different points.

INTRO TO DEEP LEARNING FINAL PROJECT SUGGESTION

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OUR TASK

Train an object detection YOLOv7 model.

The model should be able to classify people and vehicles.

OUR DATA

Classified data from Elbit consisting of images of vehicles and people.
Some images contain more than one car/person, and some contains both vehicles and people.



4468

IMAGES



5552

PEOPLE



5678

VEHICLES

EVALUATION

TESTING

- We will save some of the data for testing. Because each object is either a vehicle or a human, we will be able to evaluate the results by the label each object gets from the model vs. the true label.

EVALUATION

- We will use the mean average precision (mAP) method to evaluate our model, since it's an accepted way to evaluate object classification models.
- Note: YOLO classifies the labeled objects by boxing them.

SCORE

- The mAP compares the ground-truth bounding box to the detected box and returns a score. The higher the score, the more accurate the model is in its detections.



BENCHMARK

COMPARE WITH

_____ We have a trained YOLOv7 model that we received from Elbit.

METHOD

_____ Comparing the mAP results from both models will be a good benchmark.

SUCCESS RATE

_____ During the final project implementation, we will test both models' success rates and allow a 10% deviation. We believe it's a good benchmark that is both reachable and good enough.

TWEEKING

_____ If during the project we see that the trained model is not well trained or trained with more data that we don't have, we might consider changing our benchmarks.