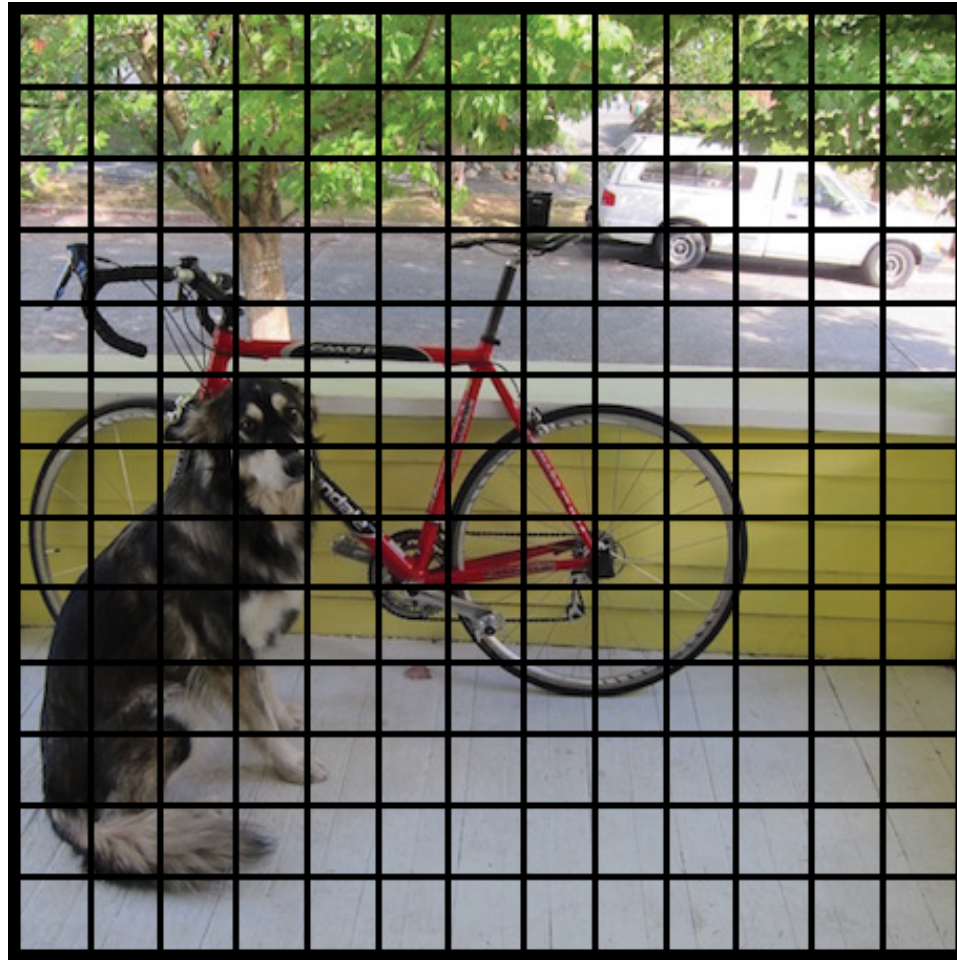# 4-24 Personal Research

Presenter: Yu-Chun Hung

Advisor: Peng-Sheng Cheng

Summary

- Focus on object detection part
  - Only yolov2-tiny can run.

  - The post process part is excruciate to write

- We should make the sample higher on image classification (currently 10 sample)

How to get result from tiny yolo v2?

How to get result from tiny yolo v2?

1. output tensor is (1, 125, 13, 13), input image is (1, 3, 416, 416)

2. output (13, 13) -> 32*32 pixel grid, we have 13*13

3. output 125 -> (x, y, w, h, confidence on grid) + (20 classification possibility) * (5 anchors)

4. Use NMS to remove overlap detection.

5. mAP benchmark on object detection

Currently we are on step 3, the yolo experiment is still running.

Mistake in yolov2-tiny

- v7 opset in onnx/models does not work, use v8 instead

- Do not normalize pixel value (0, 255) -> (0, 1)

- Don't use ChatGPT, use the existing solution on github instead.

- Use ONNX runtime to verify your model and postprocess is working or not first.

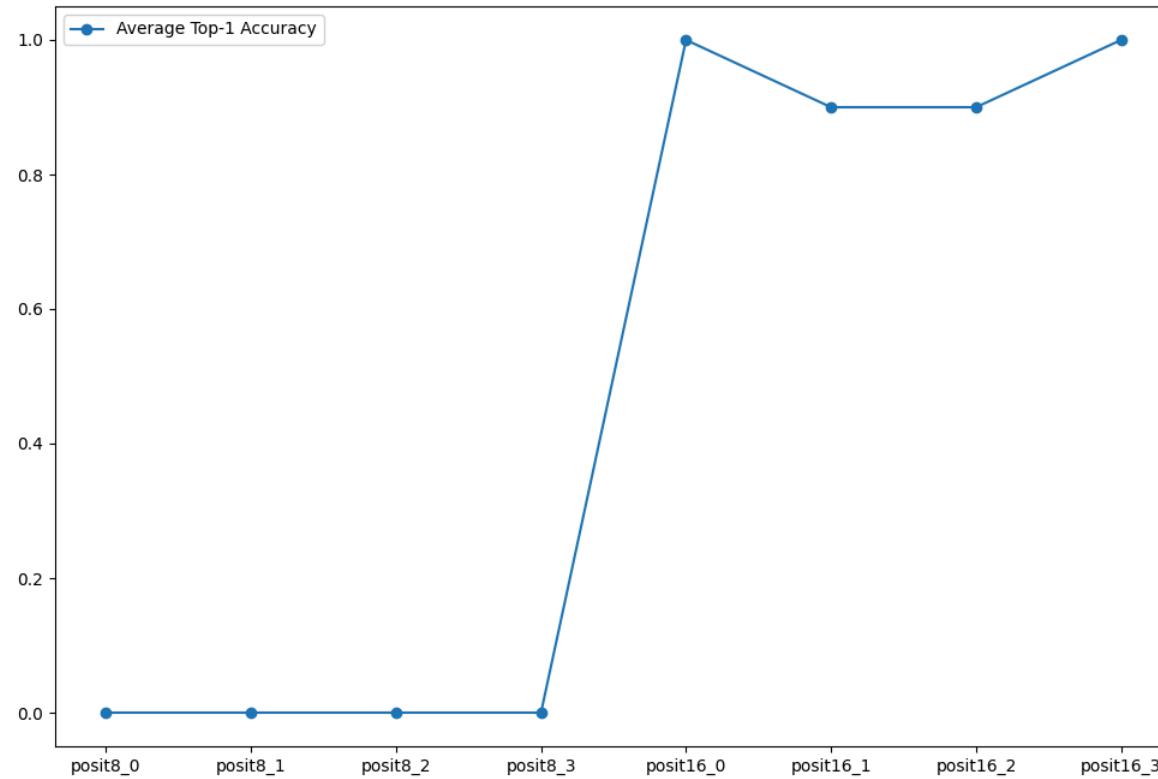# Image classification: MobileNet accuracy
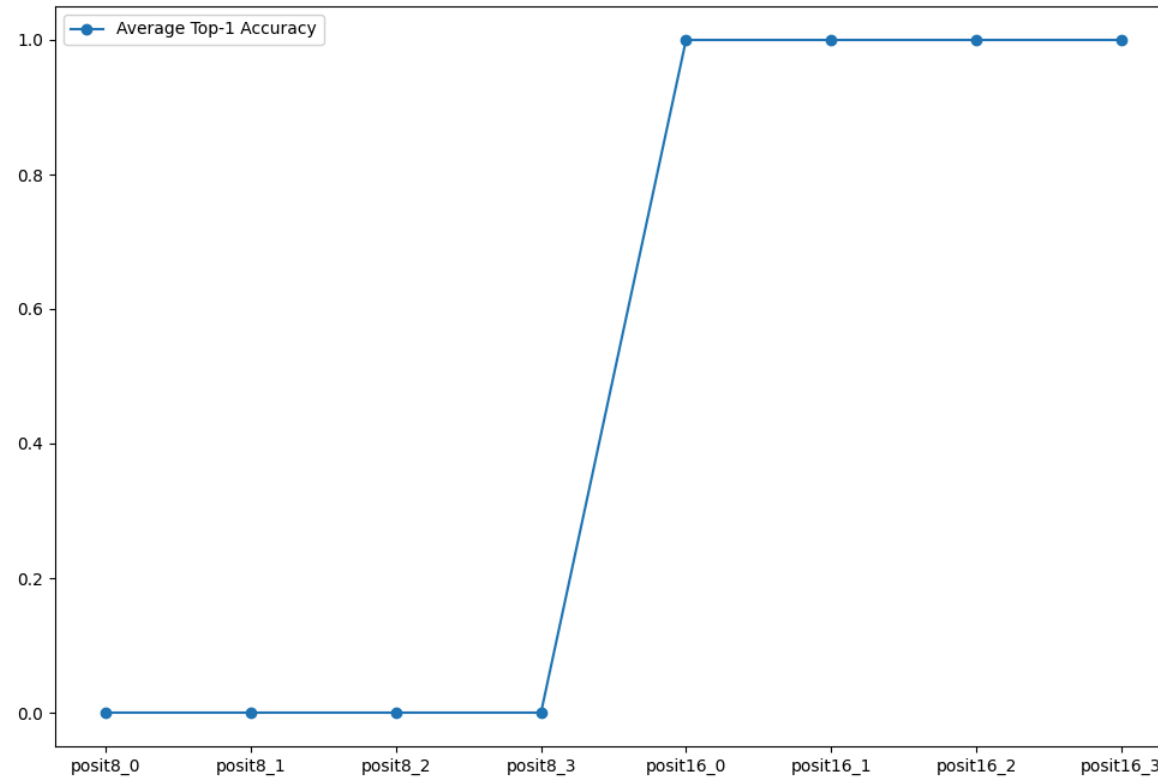
Image classification: Resnet18 accuracy
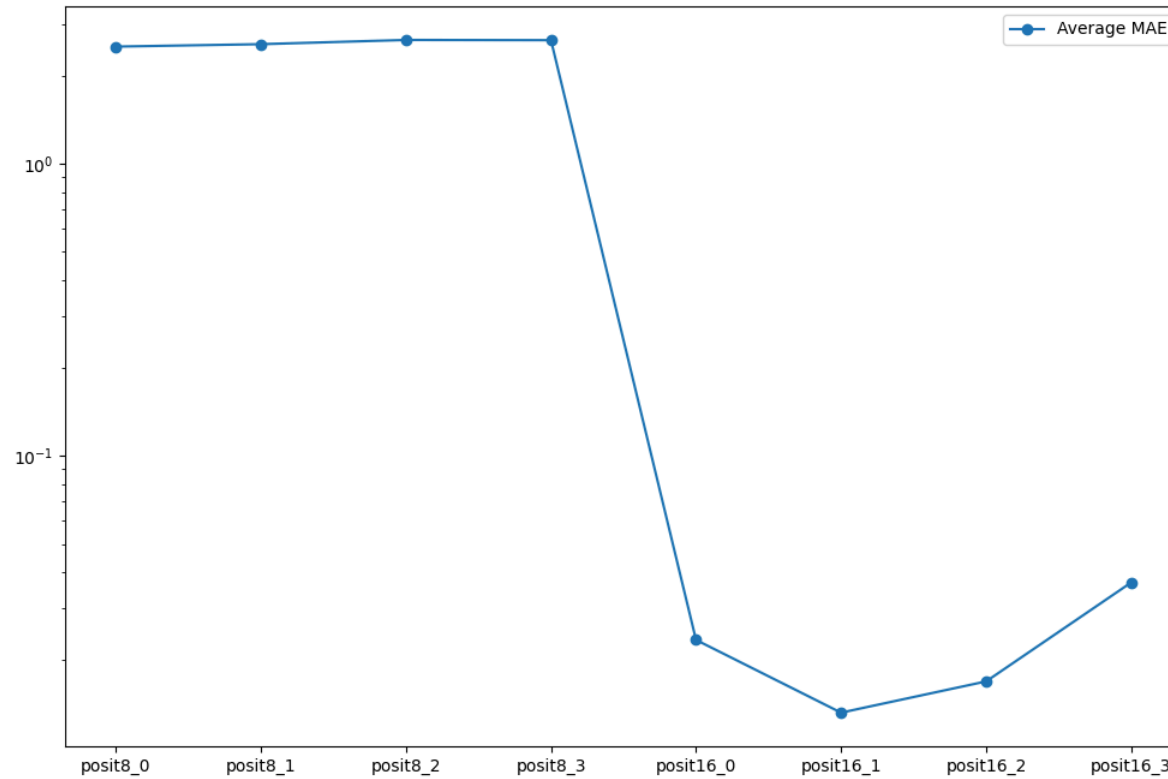
Image classification: MobileNet Average MAE

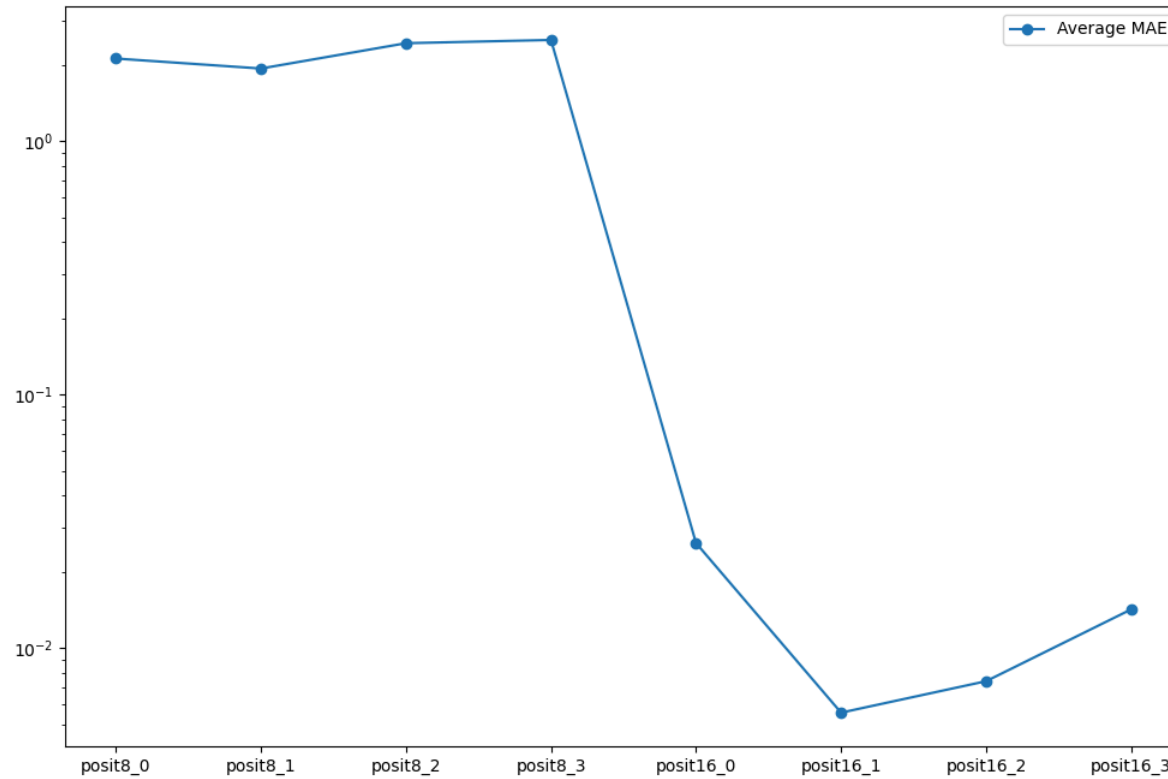# Image classification: Resnet18 Average MAE

Image classification:

- Current Sample is 10, we should make it higher,

- Posit 8 all failed, Posit(16, 1) seems the best configuration of all.

Future work

- Finish tinyyolov2 benchmark
- Writing master thesis.