

## Workshop3 Image Detection

Yolo: You Only Look Once!

1. Run the Jupyter notebook YoloV8.ipynb using different YoloV8 models and parameters over the provided images and then choose your own images of the Internet that have cars, motorcycles, etc and show the results.
2. Use the script Yolo\_Potholes.ipynb in Kaggle/Collab and train a Yolo V8 model, pick different versions of Yolo V8, nano to Xlarge and compare the results, also compare one trained model with the best model and create and download the video of the inference. Download this dataset from: <https://www.kaggle.com/datasets/farzadnekouei/pothole-image-segmentation-dataset>
3. Bonus: Pick and use a Yolo dataset from the Internet re run the code and show the results and draw your own conclusions.

### Answer the following questions:

1. Which model worked better?
2. Why do you think that specific model did a better job?
3. What are the advantages of Yolo V8 over other Yolo Versions?
4. Why Yolo is better than other image detection algorithms?
5. Can you segment images using Yolo? Which Version should I use?
6. Compare versions 1 to version 8 in a table.

### Want to know more? Read this paper:

#### Yolo V1

[https://www.cv-foundation.org/openaccess/content\\_cvpr\\_2016/papers/Redmon\\_You\\_Only\\_Look\\_CVPR\\_2016\\_paper.pdf](https://www.cv-foundation.org/openaccess/content_cvpr_2016/papers/Redmon_You_Only_Look_CVPR_2016_paper.pdf)