Computer Vision
Car license plate recognition

Emanuele Corongiu

Summary

- Problem configuration
- Possible solution
- Yolo V8
- Input Data
- Training and result
- Tracking

Problem Configuration

Images source: How to Use the carPlate Object Detection API (roboflow.com)

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https://github.com/Arijit1080/Licence-Plate-Detection-using-YOLO-V8

Possible solutions

Classic Image processing techniques

Machine learning techniques

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Classic Image processing techniques

As exaplample is CV library

Machine learning techniques

Yolo V8

Yolo V8

Is based on machine learning techniques and allows to perform many operations such as detection and tracking.

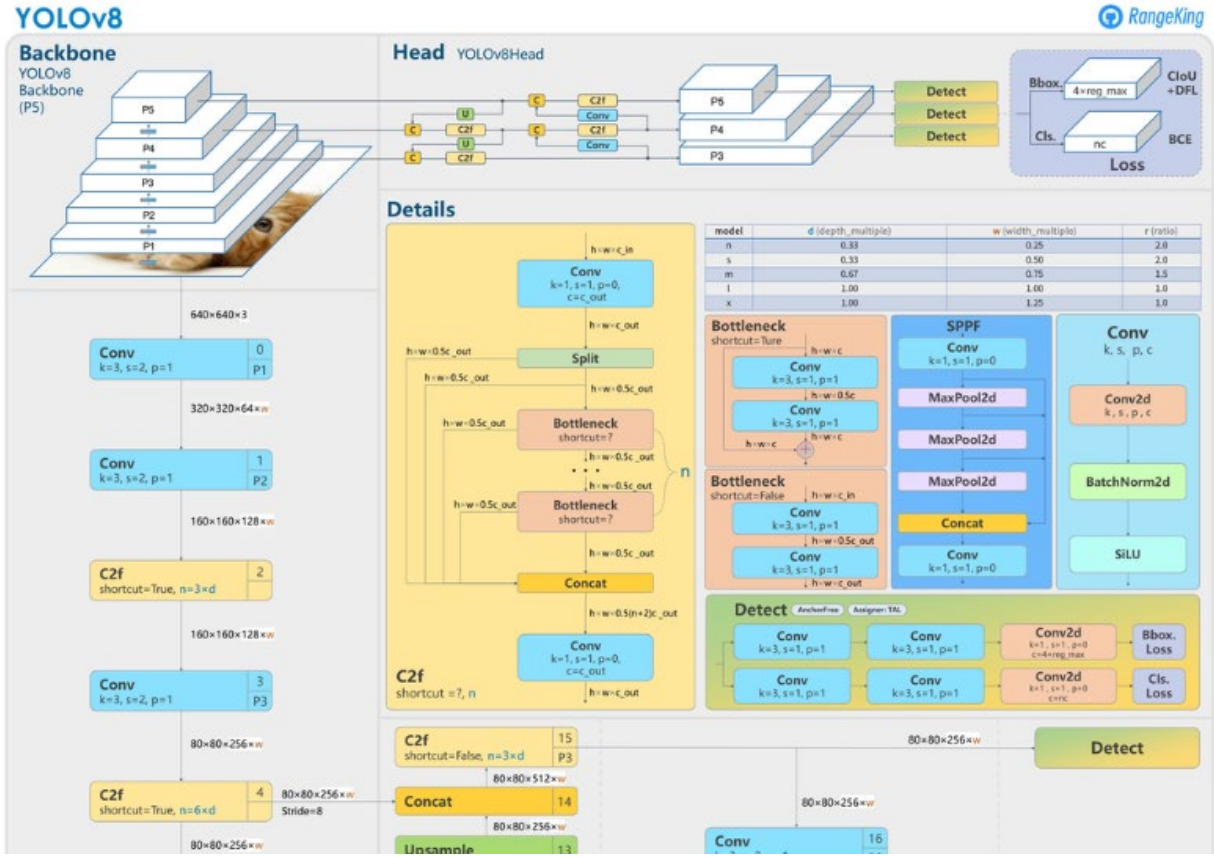
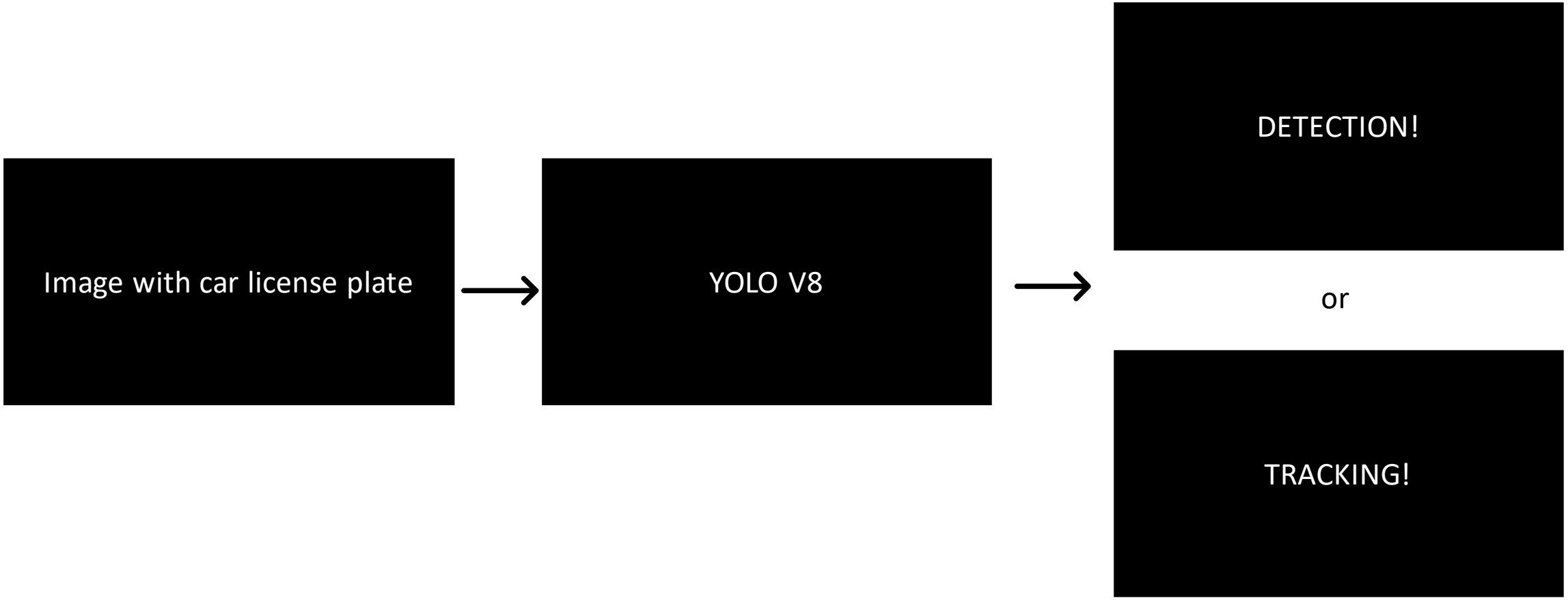


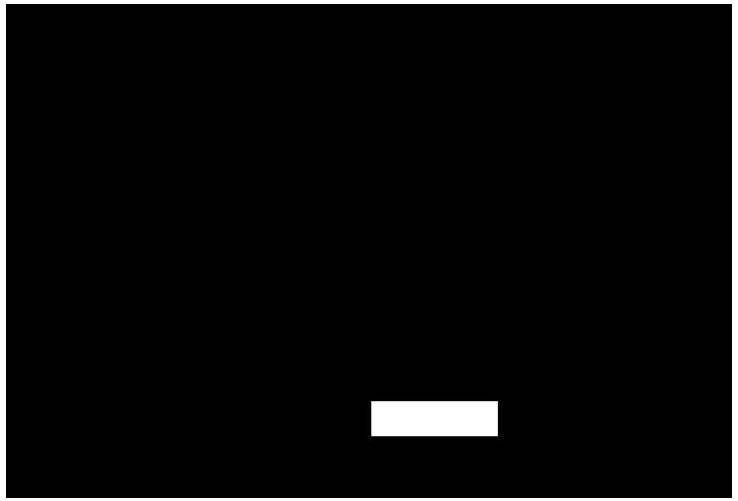
Image source: [What is YOLOv8? The Ultimate Guide. (roboflow.com)]

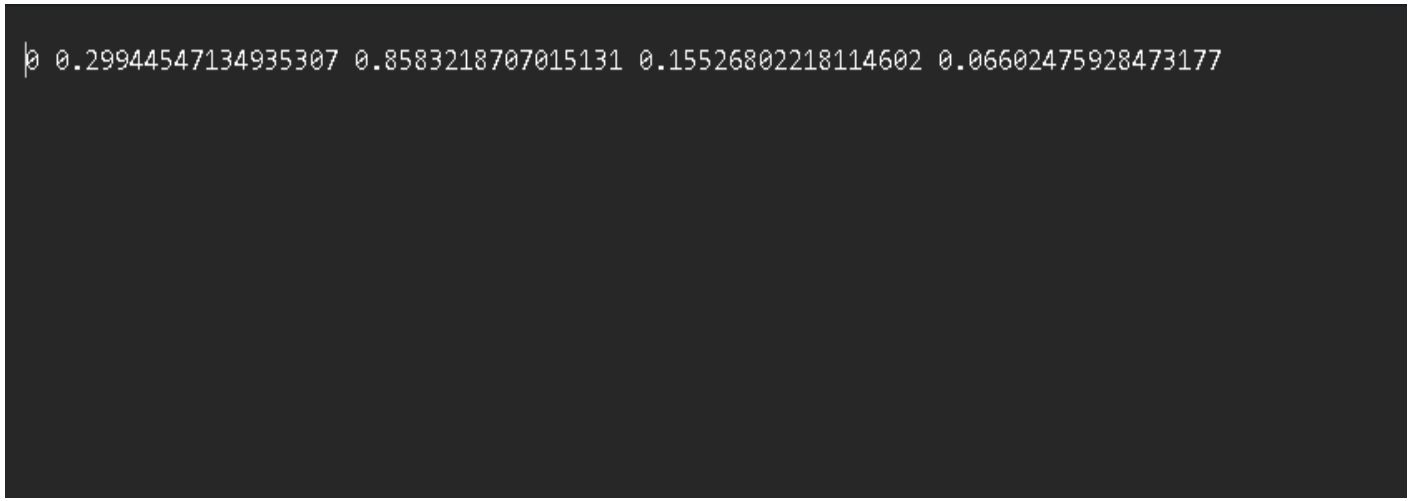
Yolo V8



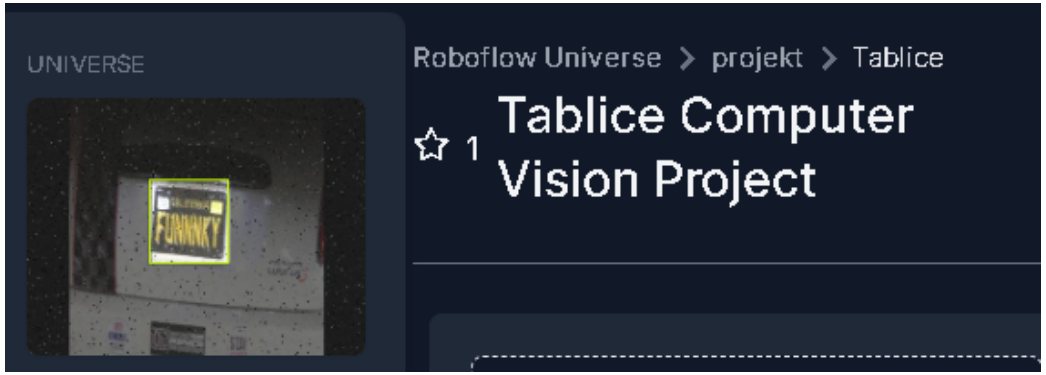
Input data

Data input to the model can be given in different ways, such as through binary masks or through a text file.
In some cases, therefore, the pre-processing phase before training can be a challenge.

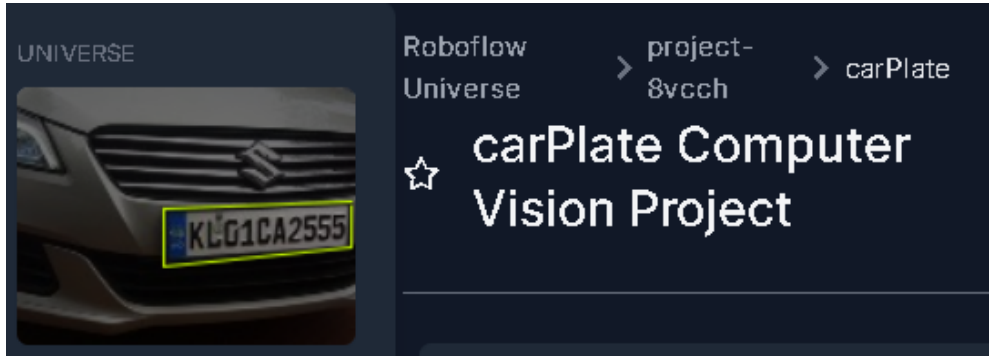




Input data



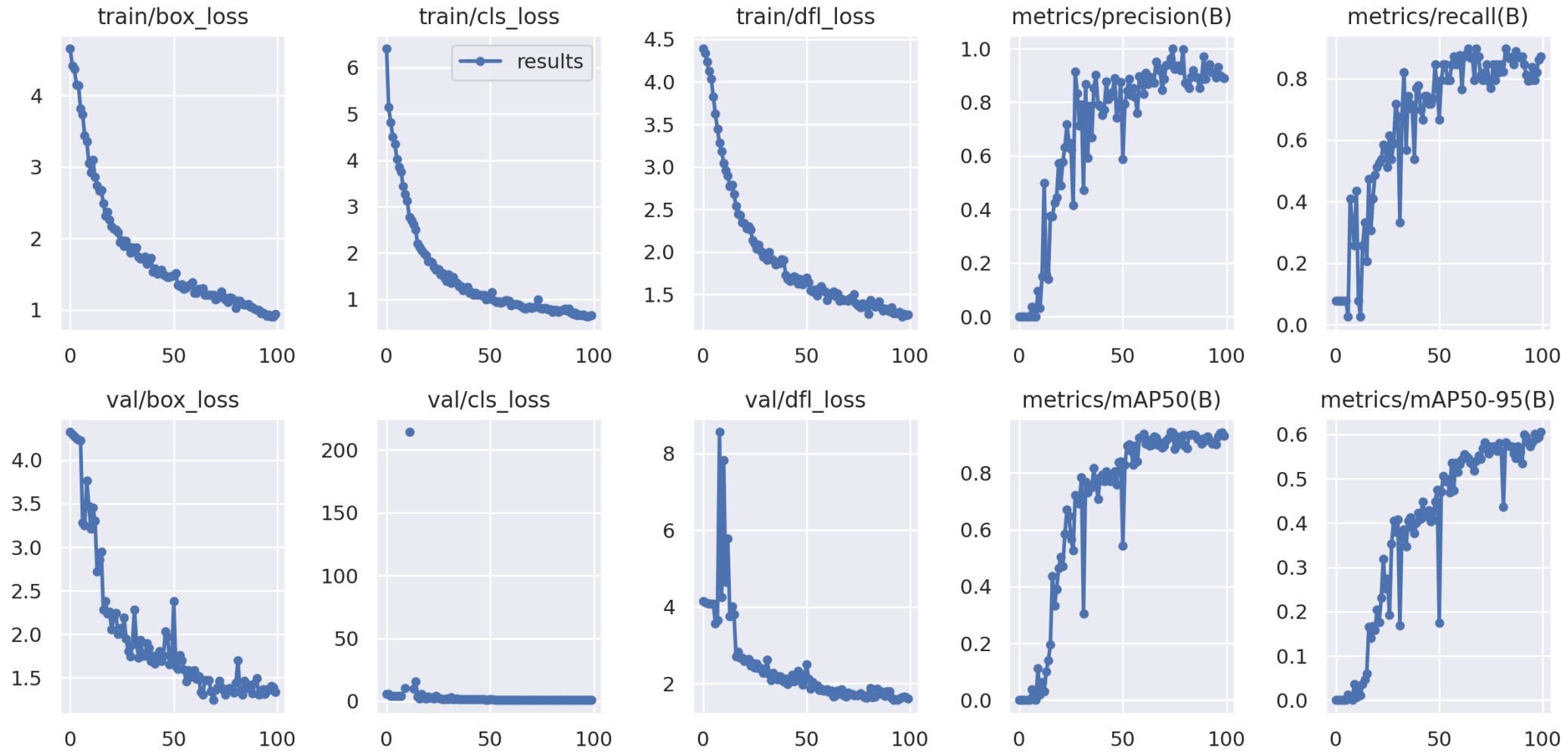
Tablice Dataset (roboflow.com)



carPlate Dataset (roboflow.com)

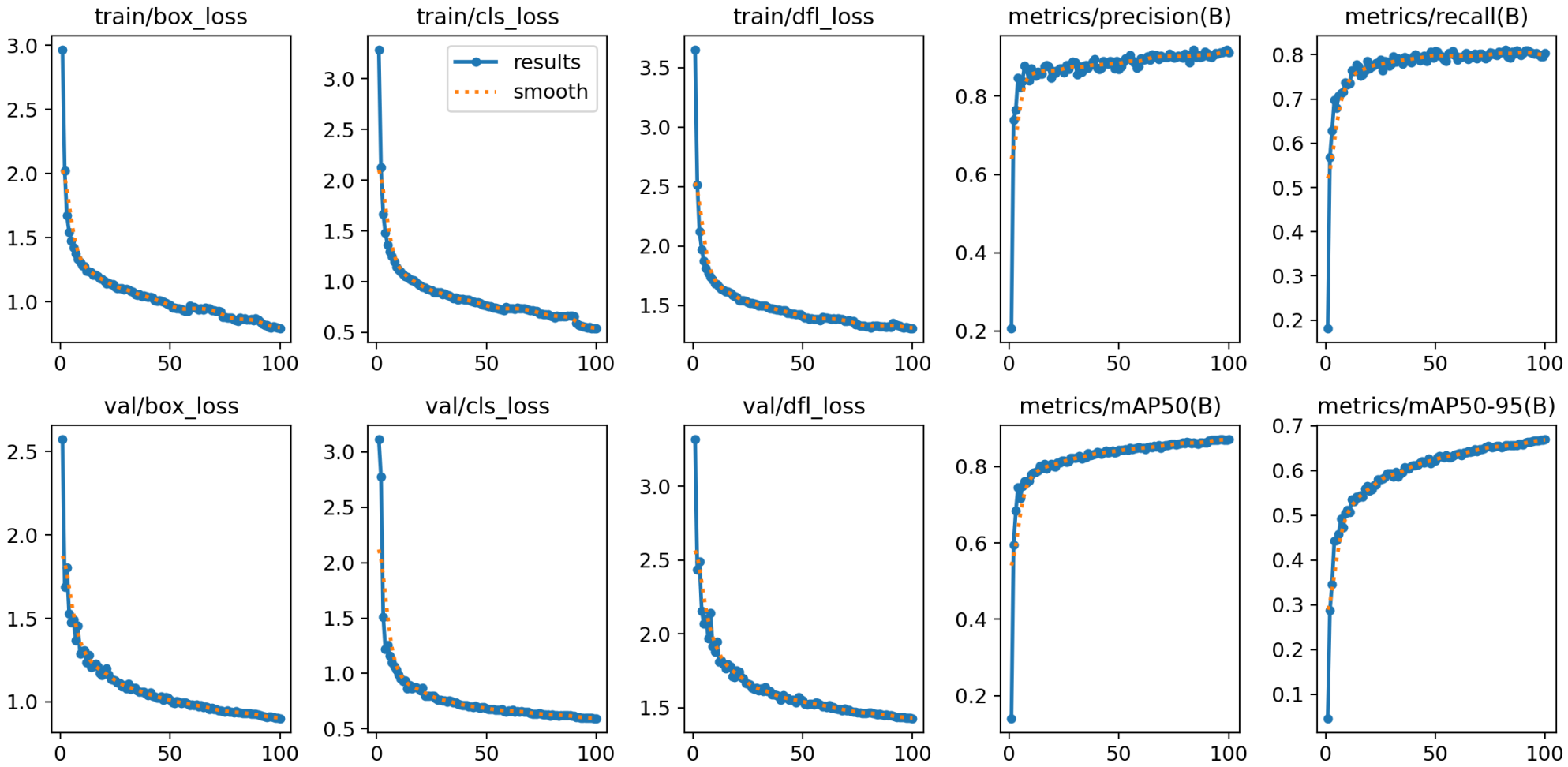
Training and results

With the small dataset: about 300 images in total



Training and results

With the big dataset: about 8000 images in total



Tracking

The ouput of YOLO in tracking mode

Video demo source: https://github.com/Arijit1080/Licence-Plate-Detection-using-YOLO-V8

Thanks for the attention