

GPU Robot

Robot NVIDIA jetson - GPU project - Grp. 5

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HES-SO Master

Personal Challenge

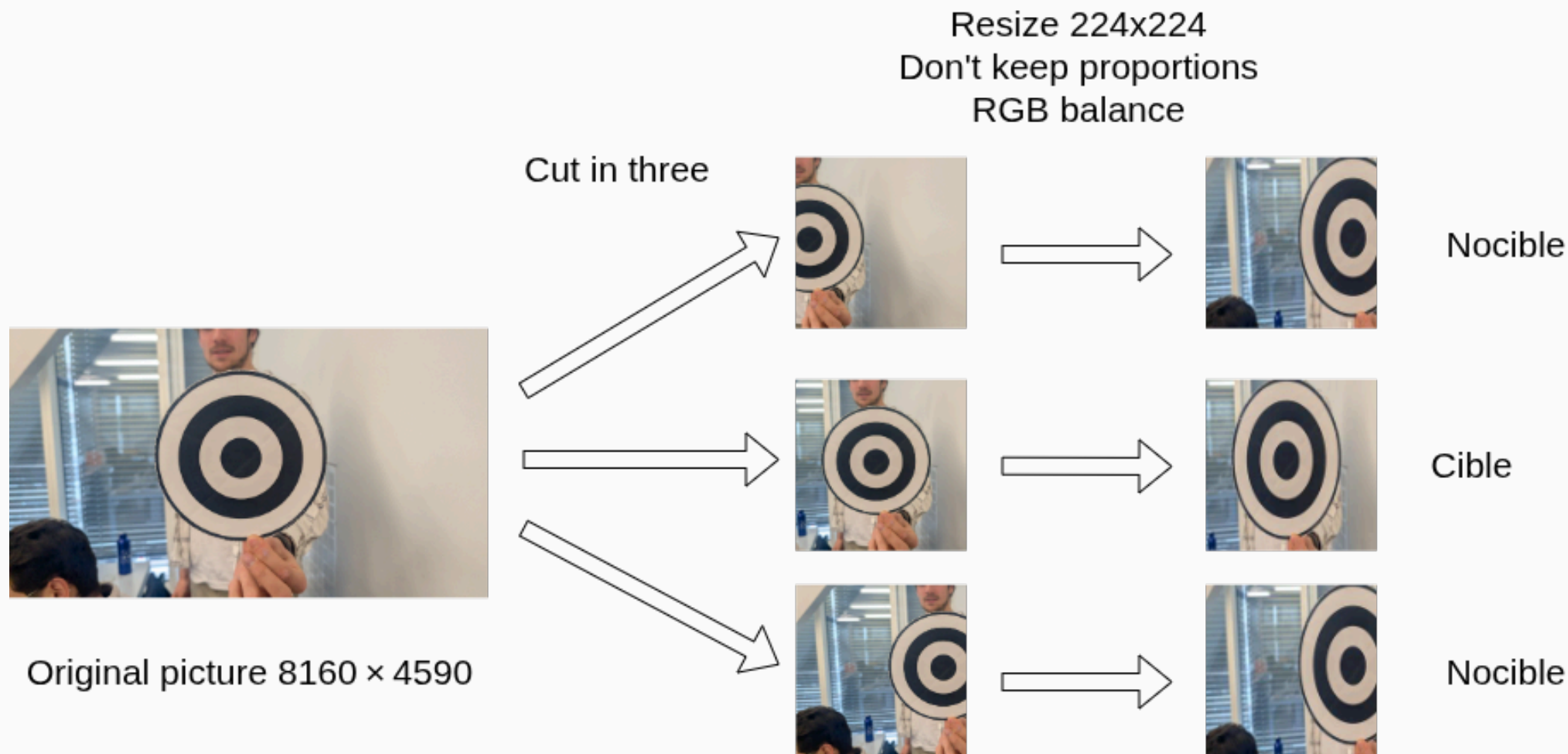
- work without CUDA3
- no server pictures

Dataset

taking a picture with the robot through PC-webviewer.go and with personal camera



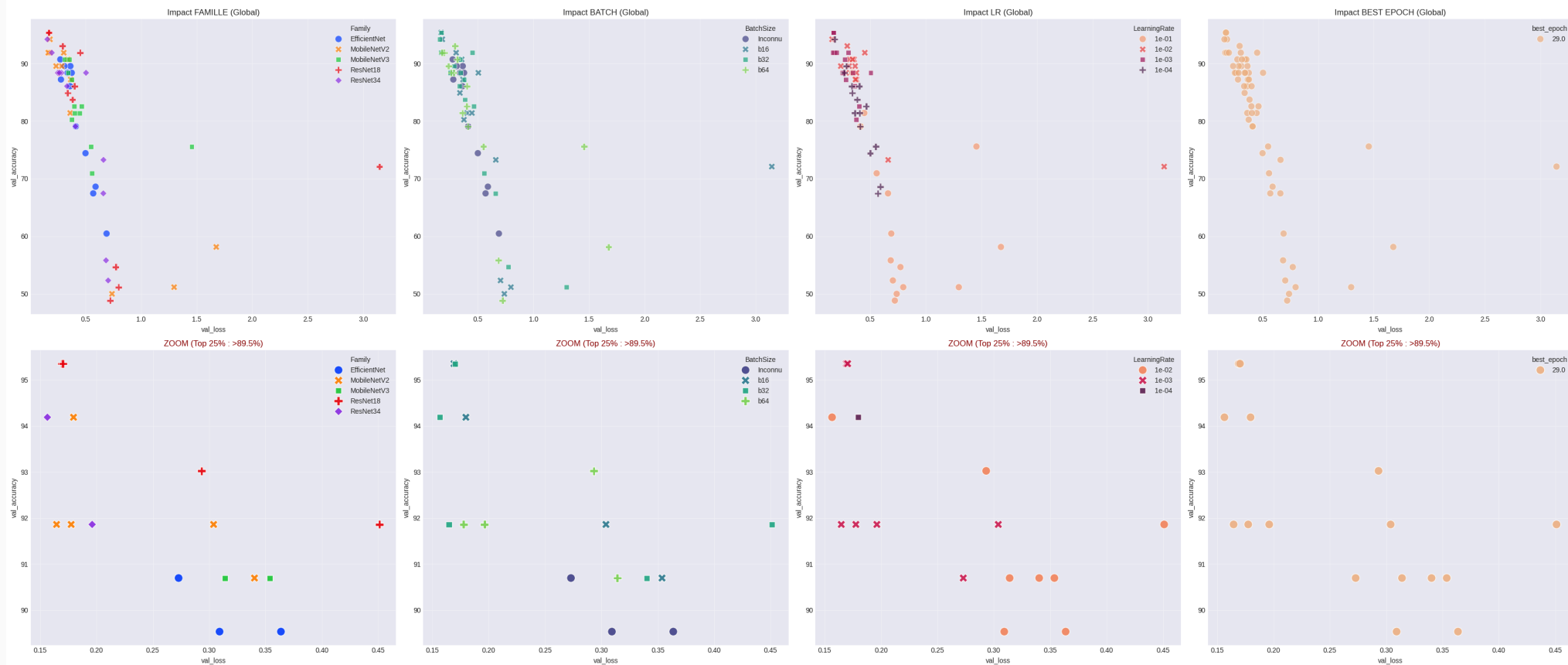
Cutting high res pictures

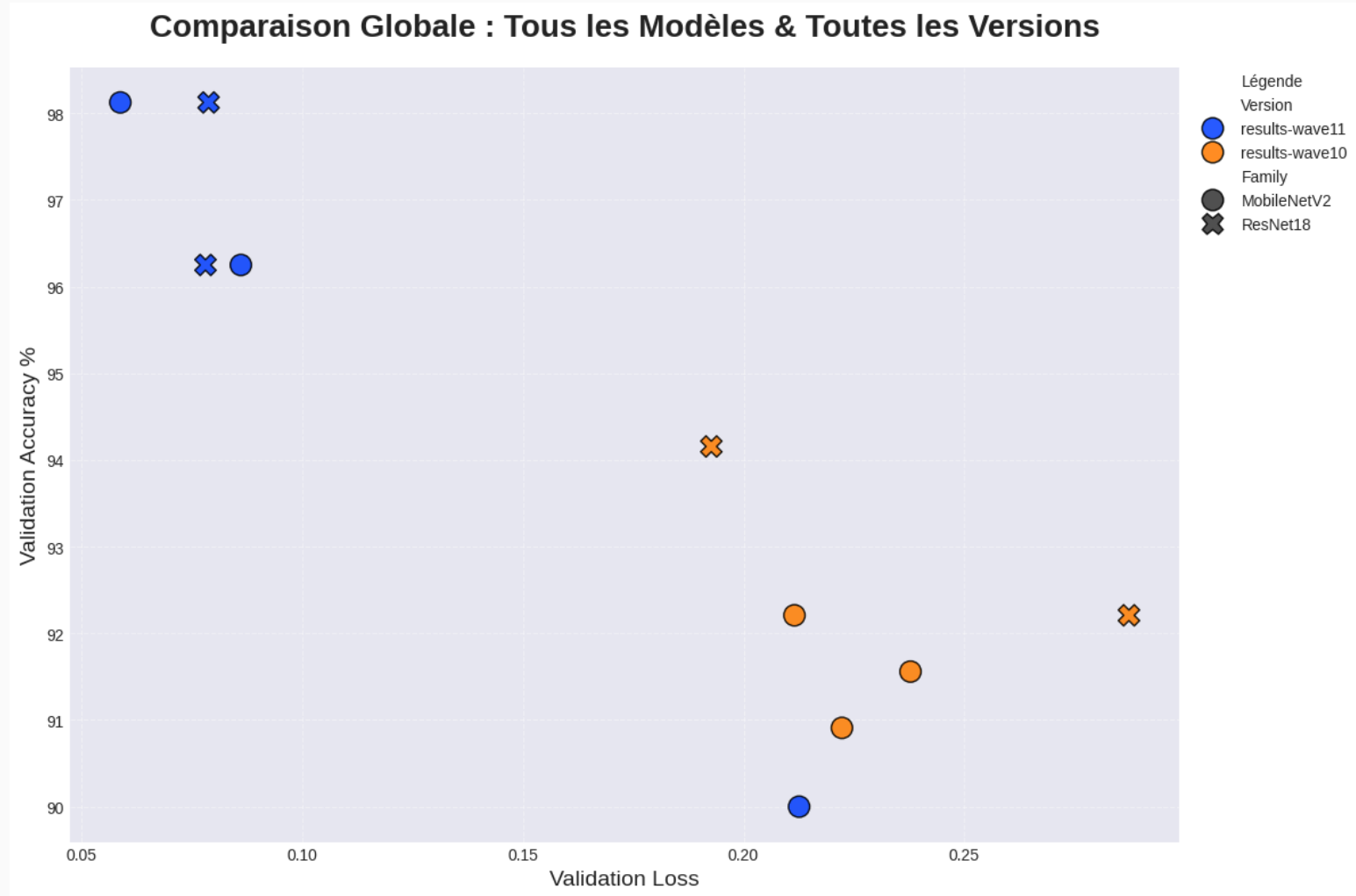


- Top 5 models by Gemini
 - ResNet-18
 - MobileNet_v2
- Hyper-parameters
 - Batch size
 - Learning Rate
 - Epoch
- Metrics
 - Accuracy
 - BCE Loss
 - FPS

Best model

Analyse Détaillée : results-wave01



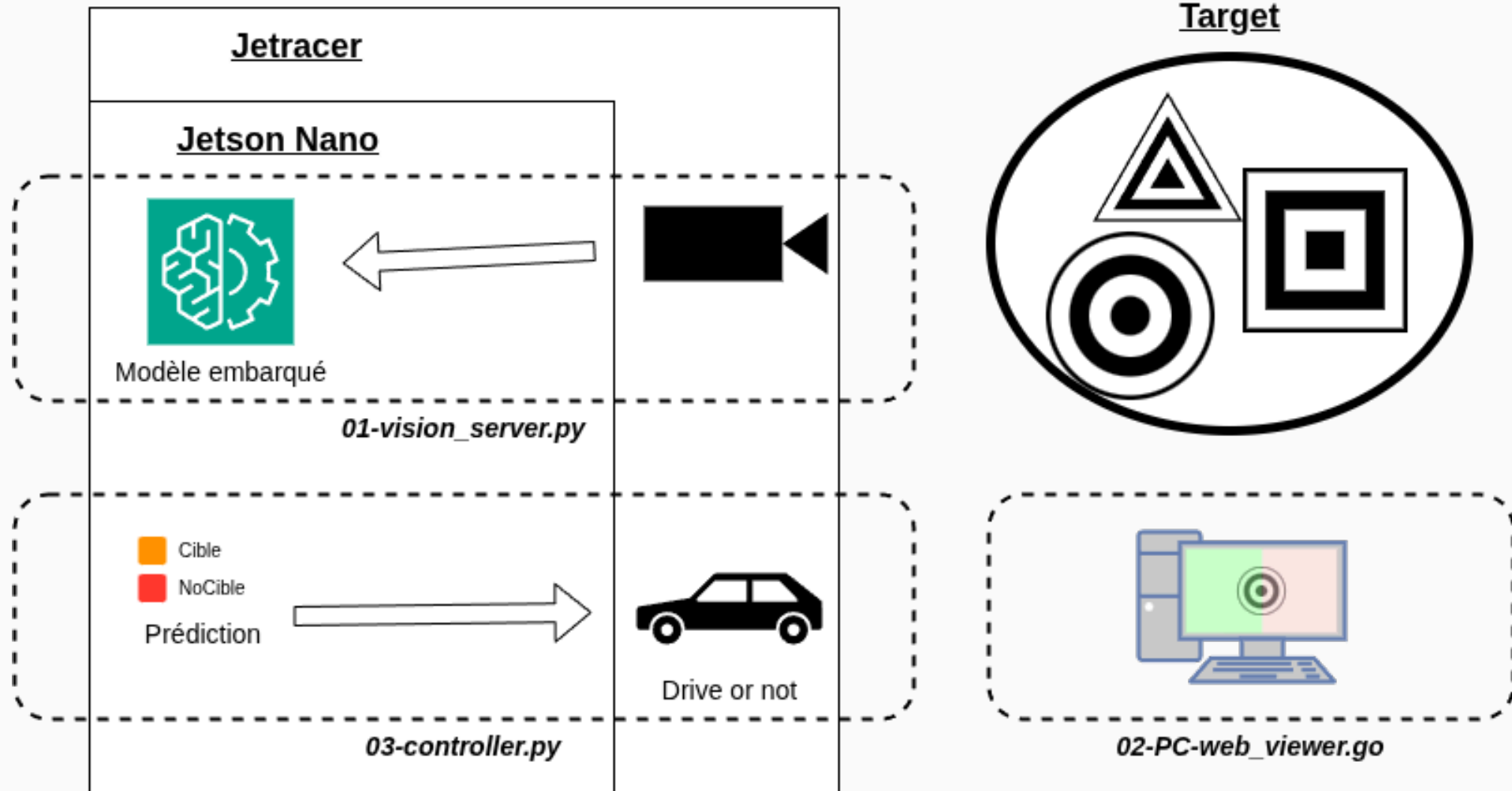


Best model

Model	Batch size	Learning rate	Epochs
mobilenet_v2	16	0,001	40




Accuracy	BCE
98.125 %	0.0588

Inference jetson



- ONNX too challenging
→ TensorRT \Rightarrow 18 \rightarrow 30 FPS

Demo

- Use case 1 
- Use case 2 
- Use case 3 

Self-evaluation

⇒ self-evaluation: 4,5 / 6