Projet Apprentissage

sur 4 jours

Douraïd Ben hassen

Essahbi Zakarya

Objectif Jour 1

- Choix du projet
  -Reconnaissance de pomme de pin

- Choix des outils
  -Google Collab comme Ide gpu cpu
  -Biblioteque Detecto
  -Algo Faster R-CNN

Objectif Jour 2

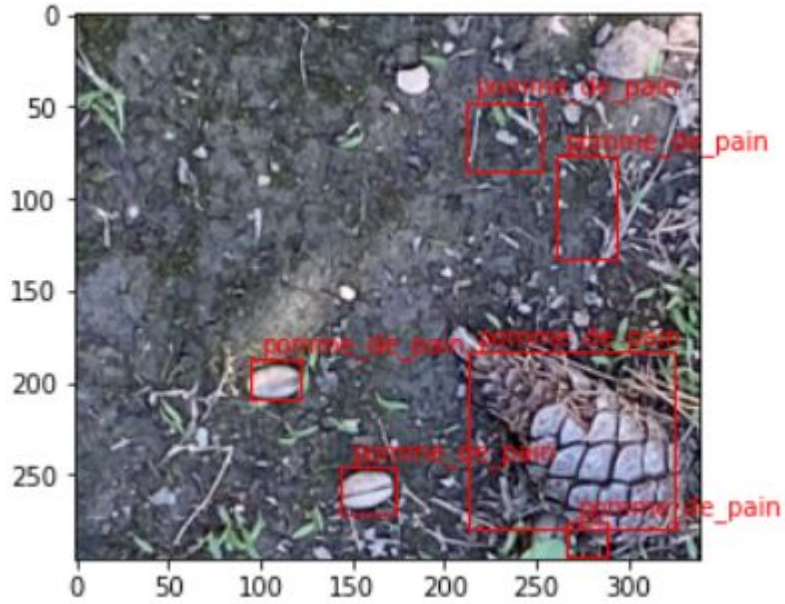
- Amélioration du dataset
- Etiquetage sur 161 images
- Avoir une première version de notre réseaux de neurone
- Lancement des premières batteries d'entraînement

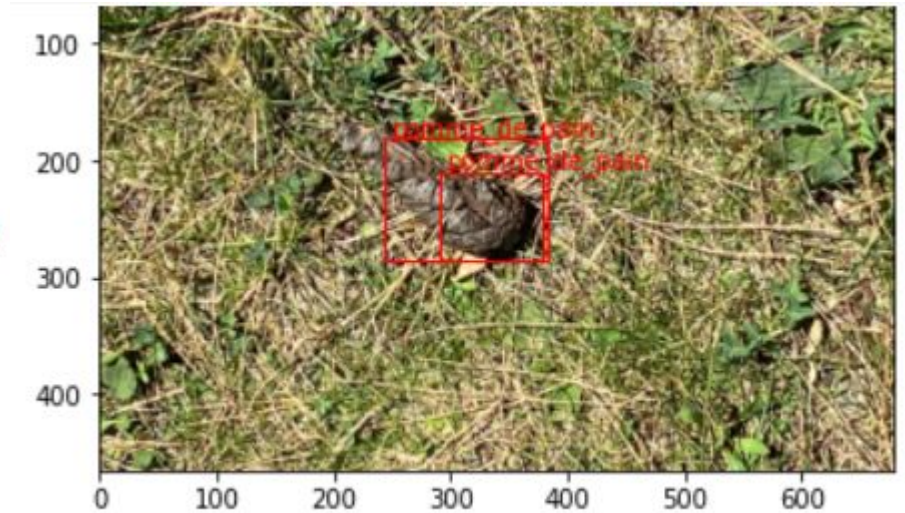
Etiquetage

Pomme
de
pin

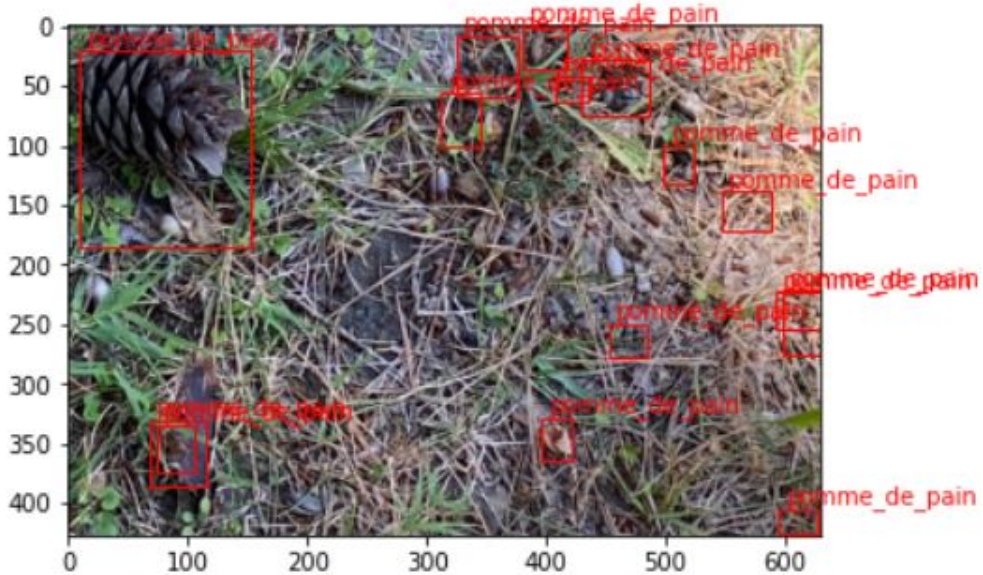
Pomme
de
pin

Pomme
de
pin






```
tensor([0.6399, 0.1486])
```

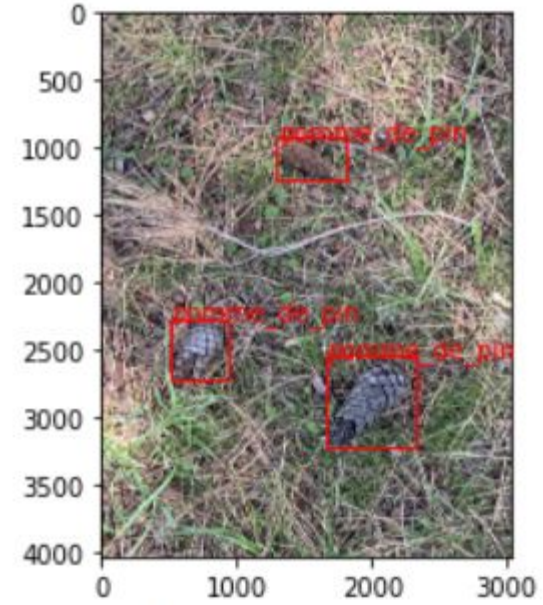


Objectif Jour 3

- Amélioration du réseau
  -Ajout d'itération

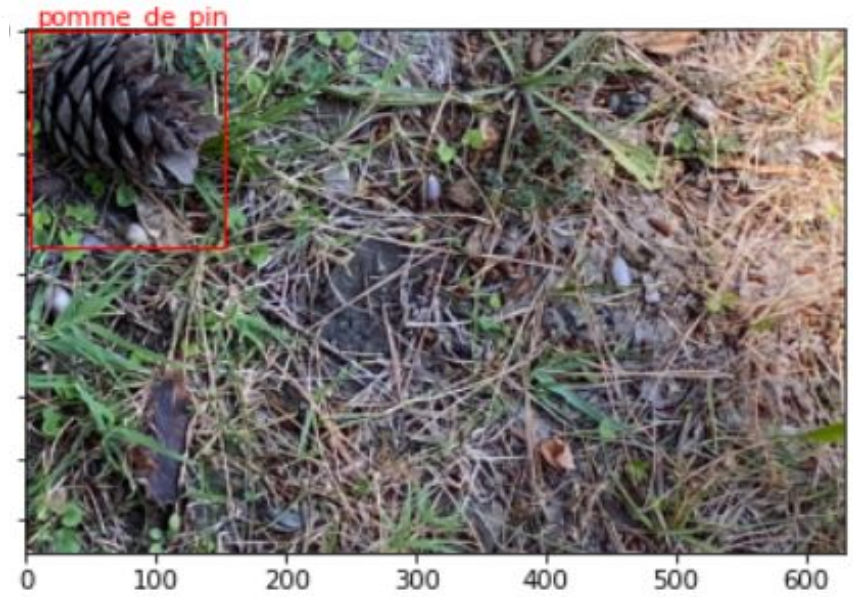
Objectif Jour 4

- Dataset plus important
  -plus d’images

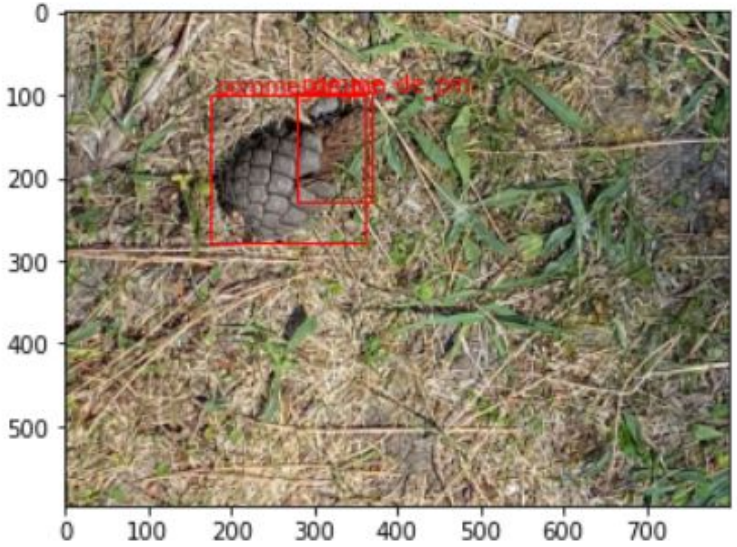


tensor([0.9993, 0.9968, 0.9954])

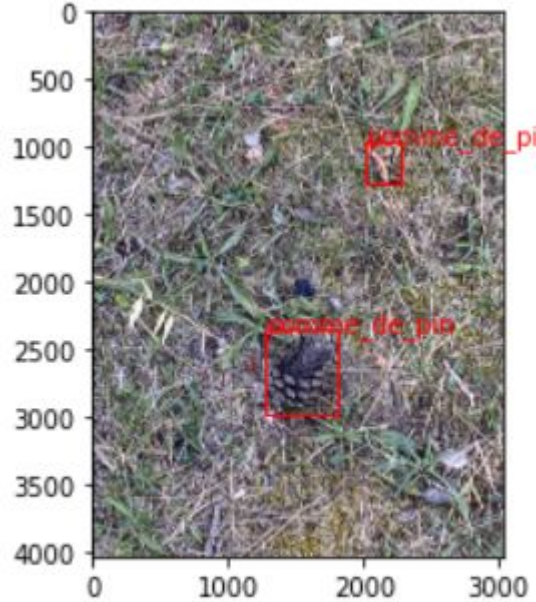
ensor([0.8339])



sor([0.9876])

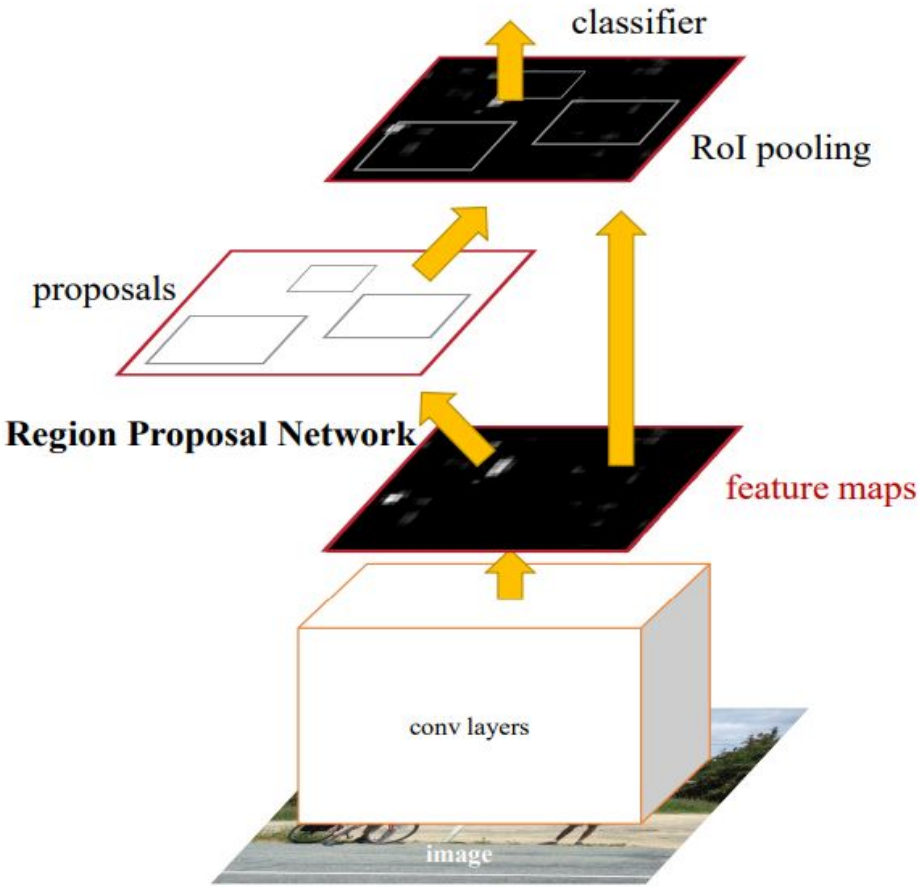


tensor([0.9977, 0.2329])

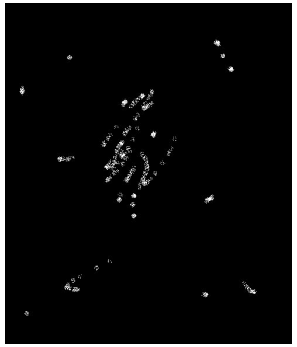


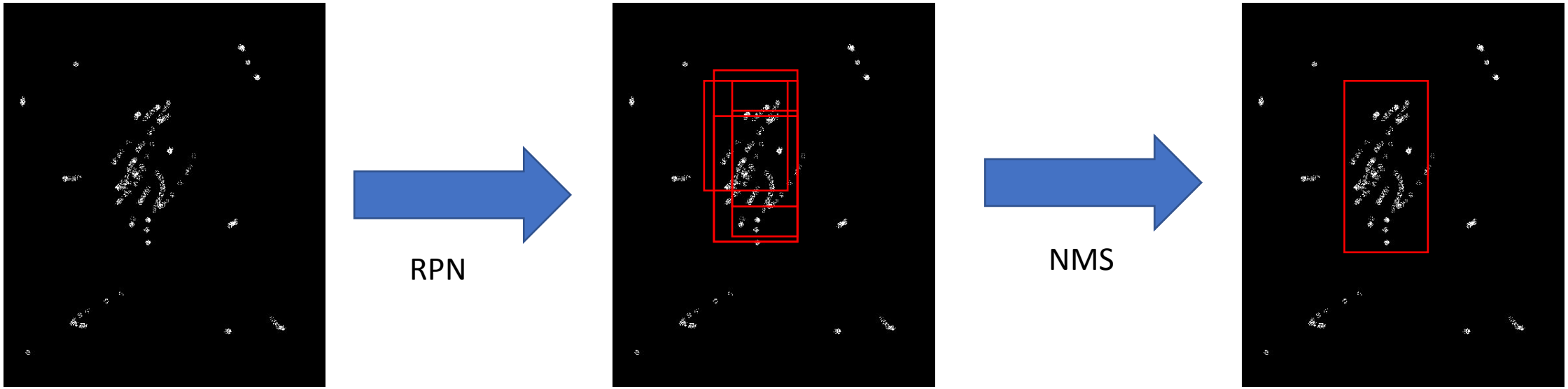
tensor([0.9982, 0.0508])

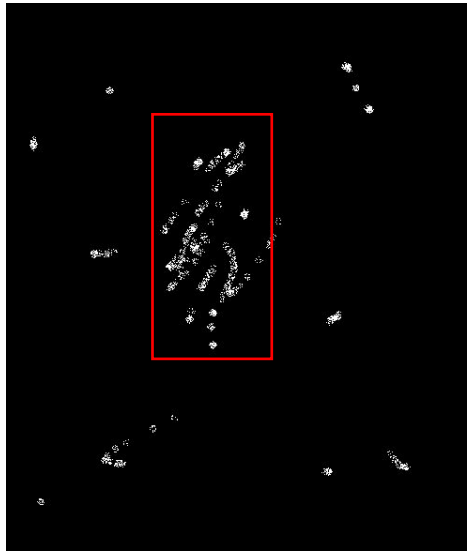
Faster R-CNN

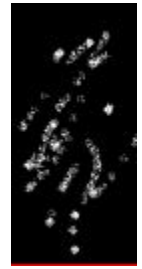

classifier
RoI pooling
proposals
Region Proposal Network
feature maps
conv layers
image

CONV




RPN
NMS





Classificateur

Pomme de pin

85%

Matrice de confusion

Prédiction

Réel

	Positive	Negative	
Positive	19	3	Sensitivity 0,83
Negative	13	18	Specifitivy 0,62
	Precision 0,59	Negative Predictive Value 0,85	Accuracy 78%

F1-SCORE = $\frac{TP}{TP + \frac{FN + FP}{2}}$ = 70%

Amélioration possible

- Un dataset encore plus important
- Définition de nouvelle classe
- Passé sur une détection en temps réel

Question