

CAR MODEL & LICENSE PLATE RECOGNITION

At AMZi Smart Solutions, talented professionals work on the development of smart solutions of systems for everyday life and industrial problems. Within AMZiSS, the Artificial Intelligence Innovation Group is currently responsible for the development of new initiatives that can help create safety for our clients children and make them protected online.



AUTHOR

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Introduction

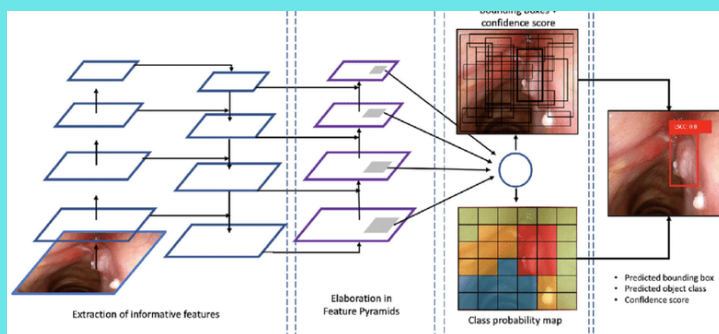
In this poster, we aim to develop an object detector that can directly detect car's model from an image and extract text from tunisian license plate.

The first part of the presentation is devoted to the data understanding, Data preparation, object detection methodology.

In the second step, we are going to present the optical character recognition techniques that we used to extract digits from a tunisian license plate.

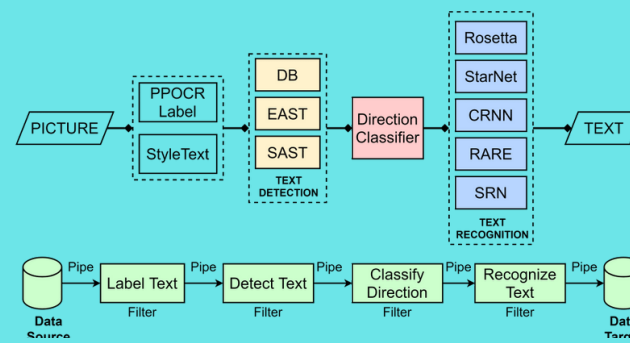
Models

YOLOv5 is a family of compound-scaled object detection models trained on the COCO dataset



YOLOv5 overview

PaddleOCR aims to create multilingual, awesome, leading, and practical OCR tools that help users train better models and apply them into practice.



PaddleOCR architecture

Results

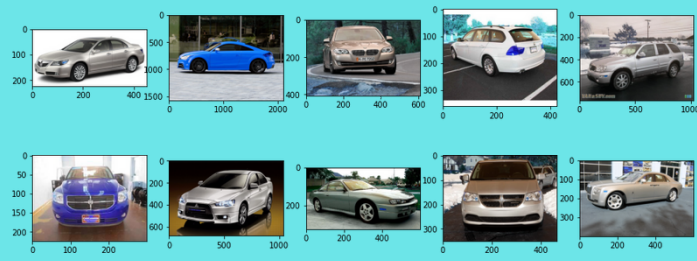
Precision	Recall	mAP@.5
0.912	0.944	0.962



Data Understanding



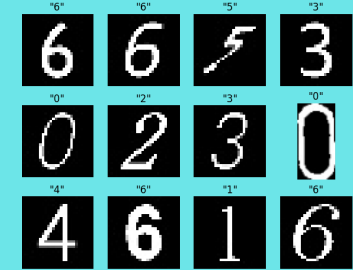
16185 images of 196 classes of cars



1000 images of tunisian license plate images



10606 images of 10 classes of digits from 0 to 9



Data preparation

145.txt - Bloc-notes

Fichier Edition Format Affichage Aide

0 0.4940 0.9257 0.2880 0.1004

object class x y width height

Data augmentation



Conclusion

This internship project was an opportunity to dive into computer vision and object detection.

I would like to thank Dr. Zied Rouissi and Miss. Ons Saadallah for their guidance and Adem Boukhriess my teammate.

