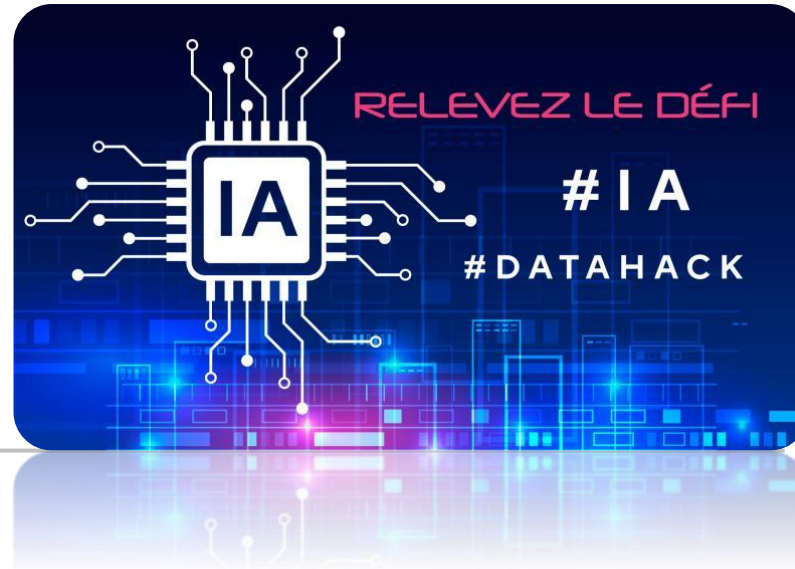


Projet 6milarite

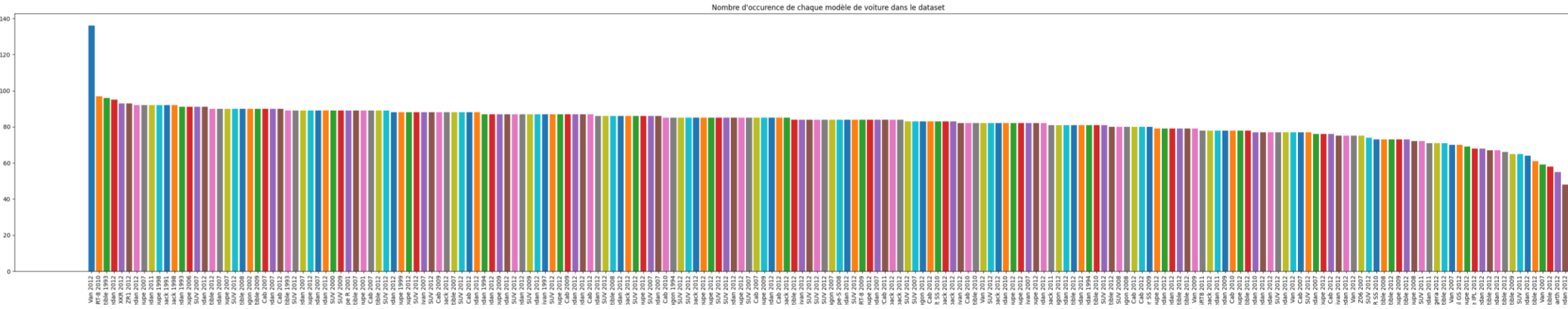
Samy Hadj-said
Virgile Hermant
Angelo Eap
Pierre-Louis Favreau
Gautier Gally



25 avril 2024

Introduction

Dataset



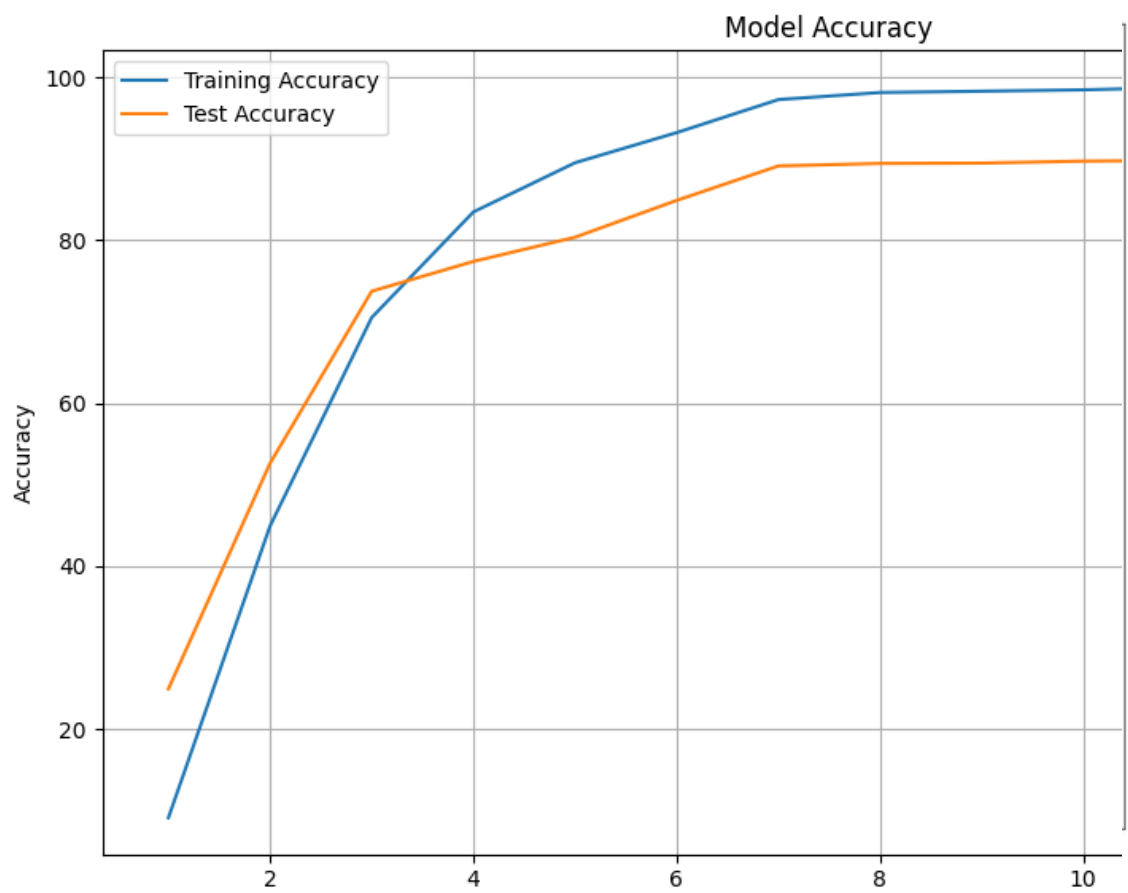
16k voitures
196 modèles différents

Classification



Aston Martin V8 Vantage Convertible 2012 , confidence: 4.55

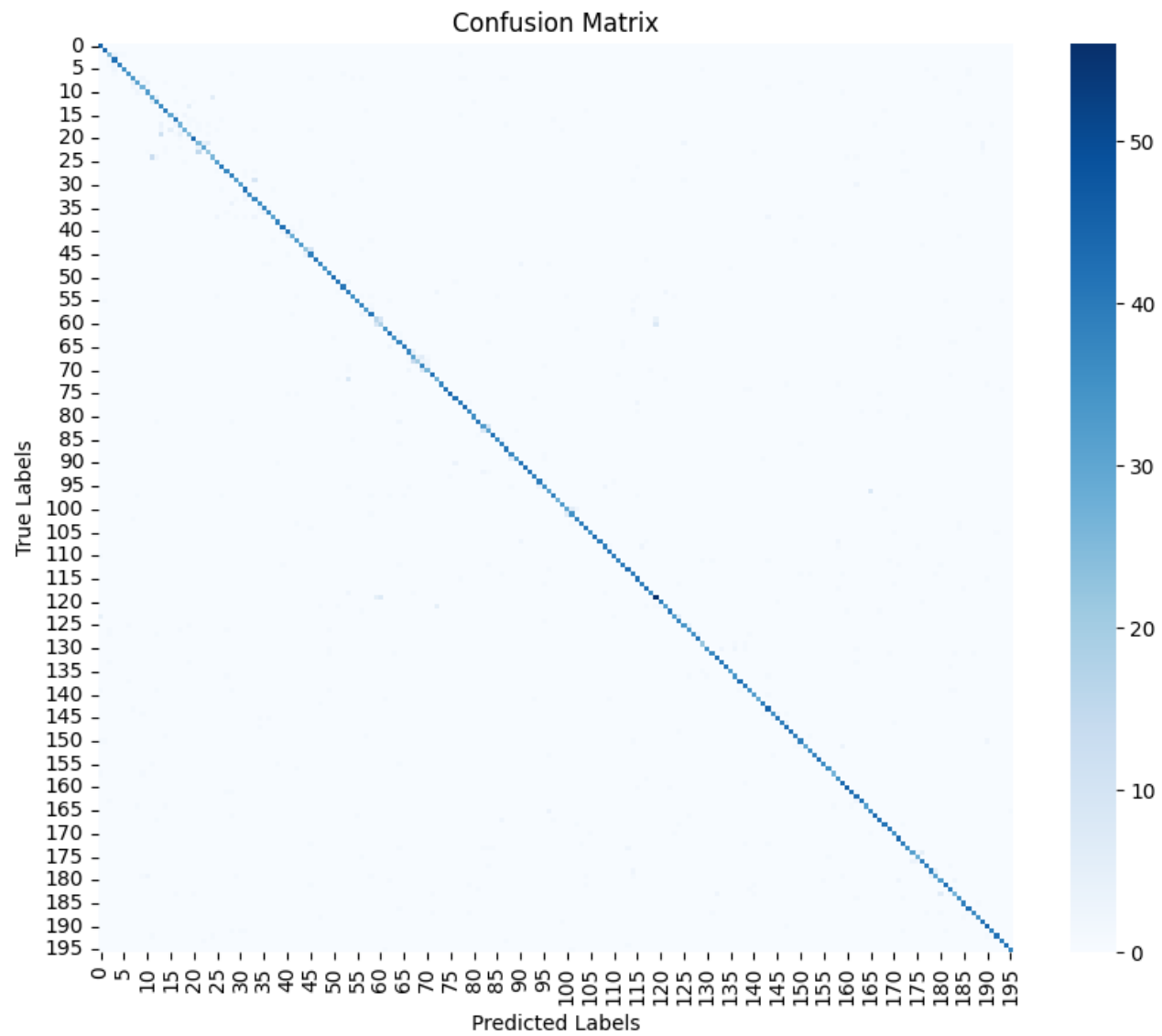




	precision	recall	f1-score	support
AM General Hummer SUV 2000	0.75	0.94	0.83	16
Acura RL Sedan 2012	0.80	0.73	0.76	11
Acura TL Sedan 2012	0.81	1.00	0.89	17
Acura TL Type-S 2008	0.81	0.87	0.84	15
Acura TSX Sedan 2012	0.96	0.76	0.85	29
Acura Integra Type R 2001	0.87	0.91	0.89	22
Acura ZDX Hatchback 2012	0.93	0.93	0.93	14
Aston Martin V8 Vantage Convertible 2012	0.67	0.67	0.67	18
Aston Martin V8 Vantage Coupe 2012	0.70	0.93	0.80	15
Aston Martin Virage Convertible 2012	0.60	0.69	0.64	13
Aston Martin Virage Coupe 2012	0.92	0.69	0.79	16
Audi RS 4 Convertible 2008	0.79	0.79	0.79	19

Accuracy: 86%
Loss: 0.03

Matrice de confusion

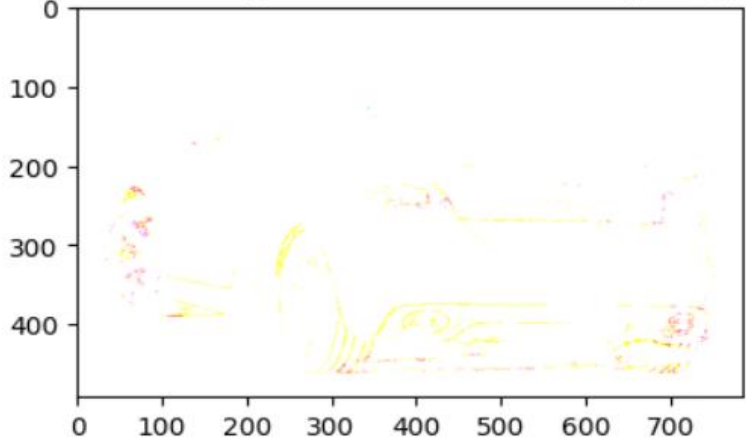


Grad-CAM et analyse des résultats

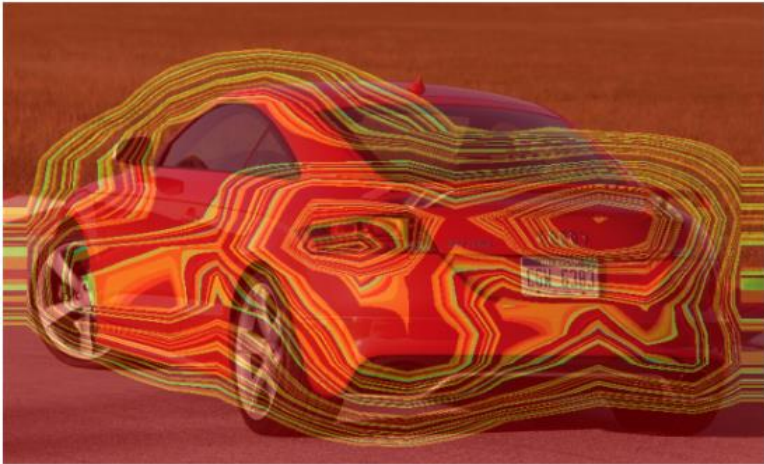
Original Image



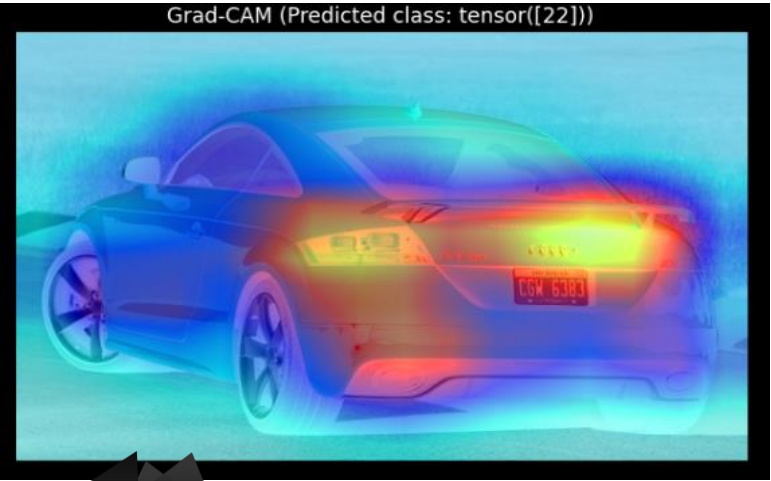
Grad-CAM (Predicted class: tensor([817]))



Grad-CAM (Predicted class: tensor([22]))



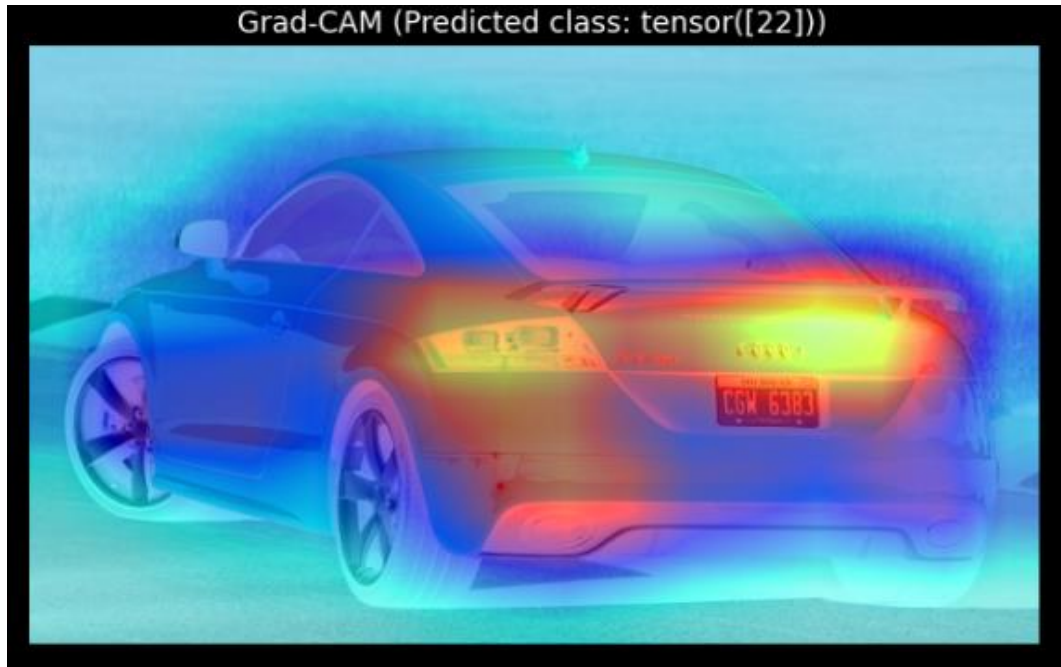
Grad-CAM (Predicted class: tensor([22]))



0.0 0.2 0.4 0.6 0.8 1.0



Influence de la répartition des train/test datasets



50% train
50% test



70% train
30% test

Image avec fausse prediction

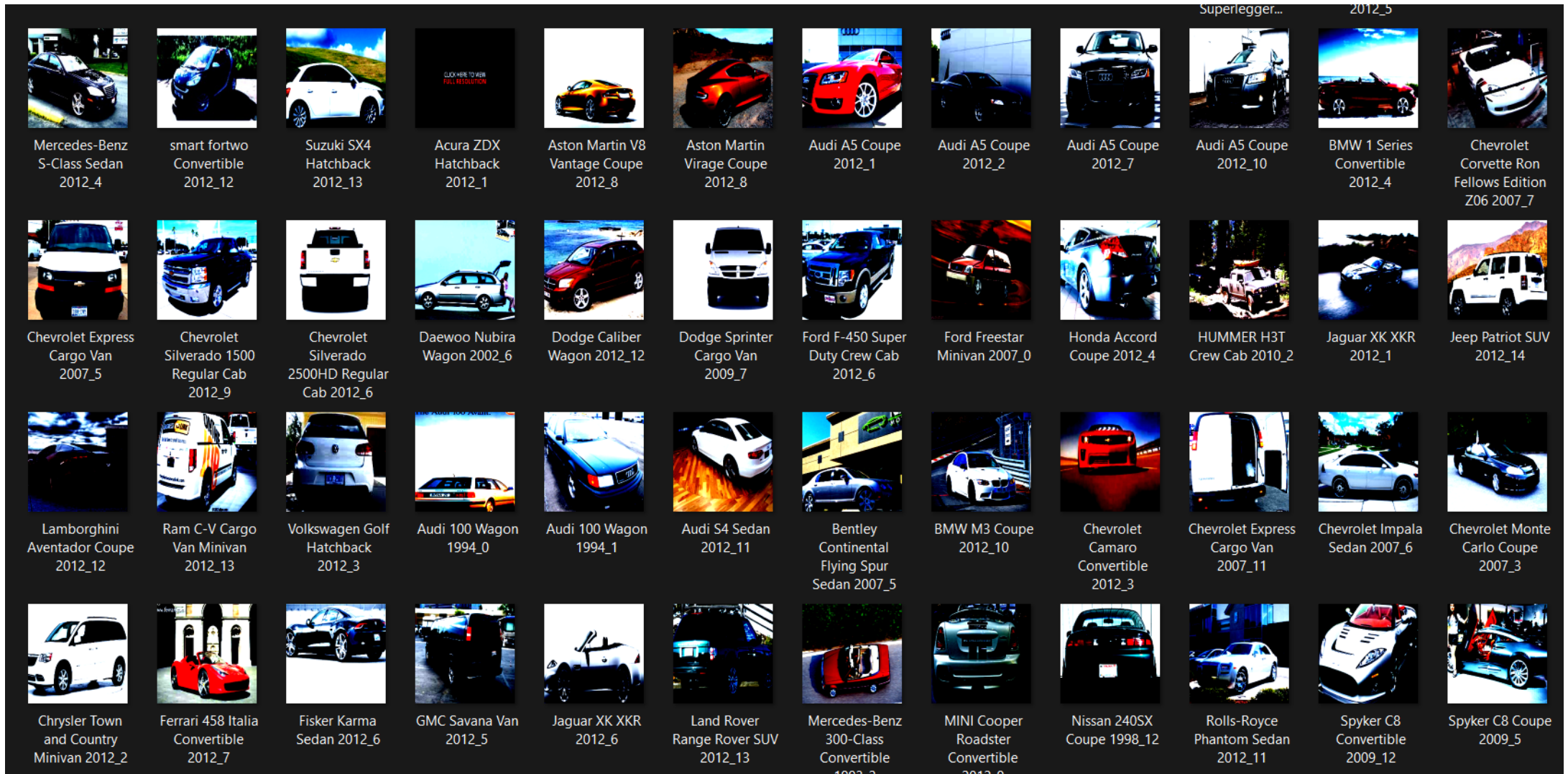


Image avec fausse prediction

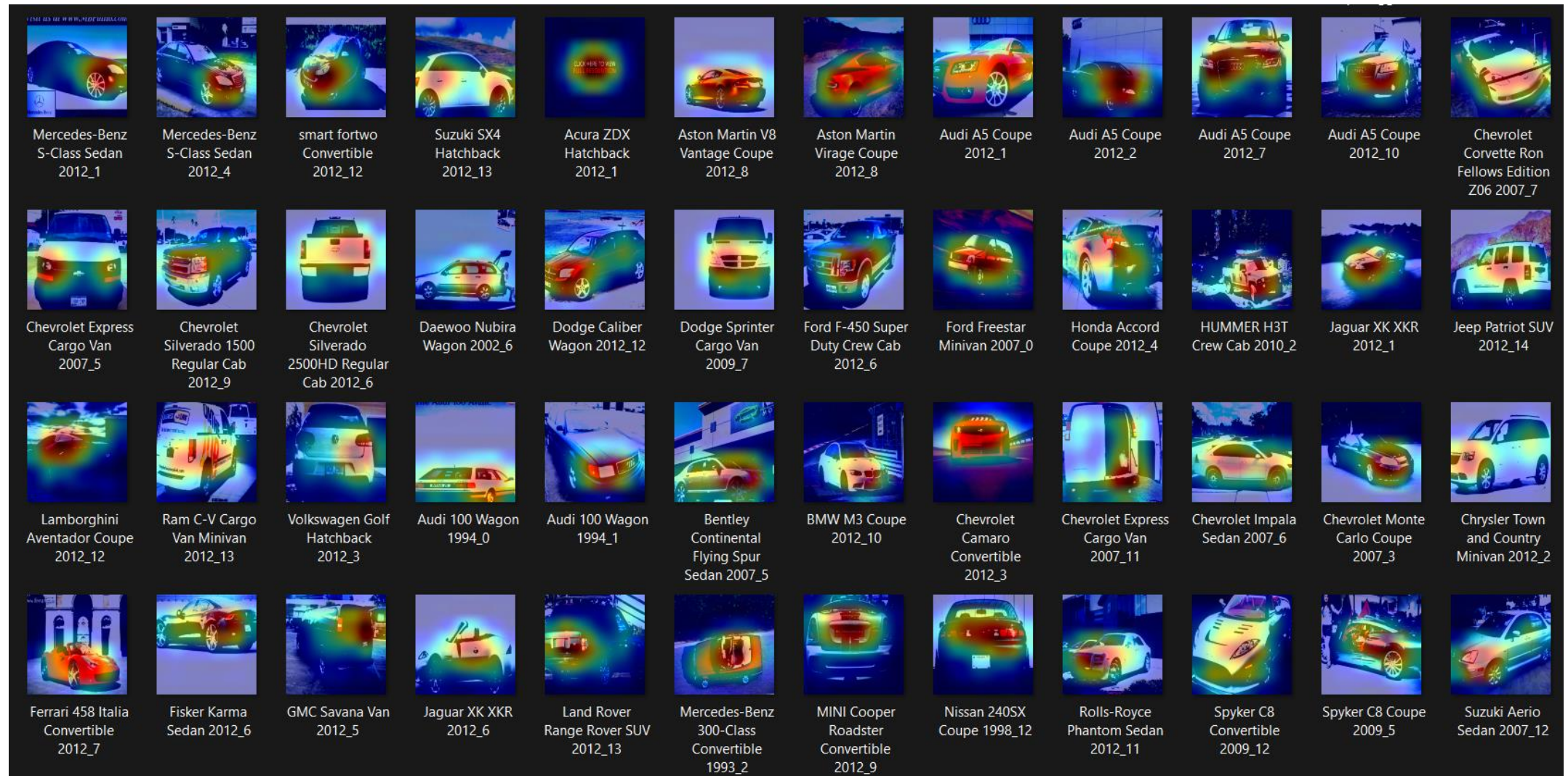


Image avec fausse prediction

Bentley Continental GT Coupe 2012



['Volkswagen Beetle Hatchback 2012'] confidence: 5.346620559692383

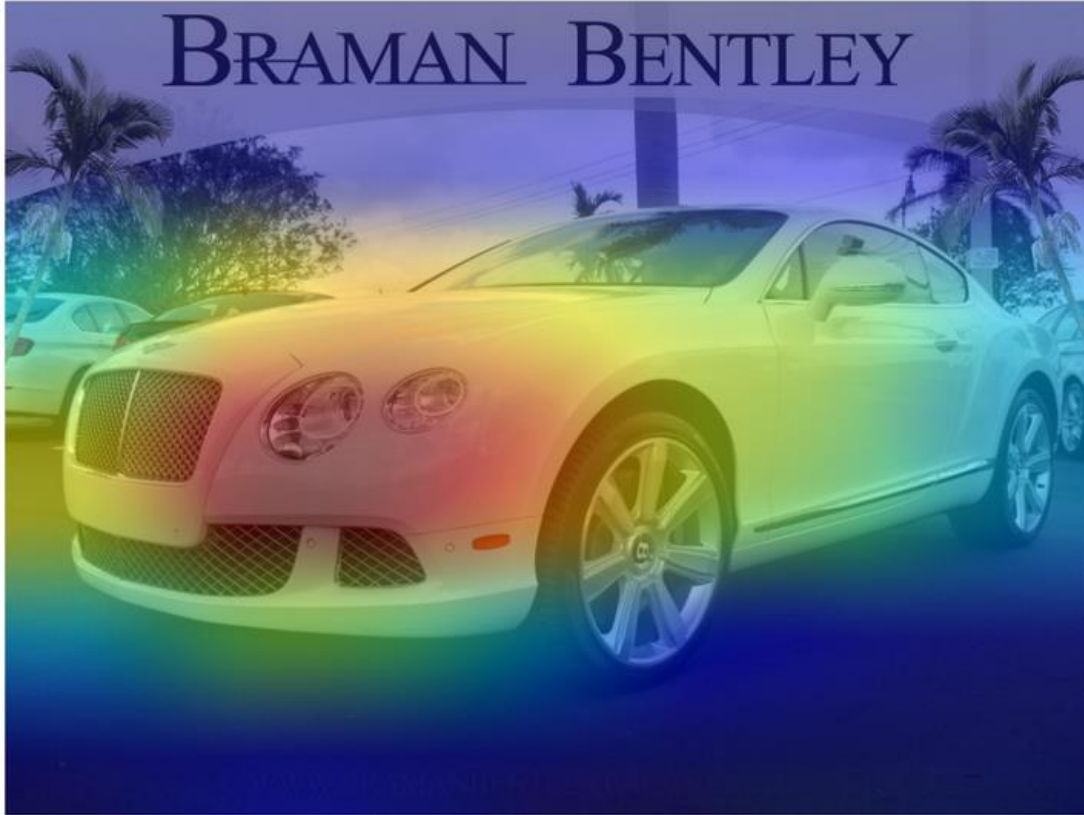
['Volkswagen Beetle Hatchback 2012'] confidence: 5.346620559692383

Volkswagen Beetle Hatchback 2012



Image avec fausse prediction

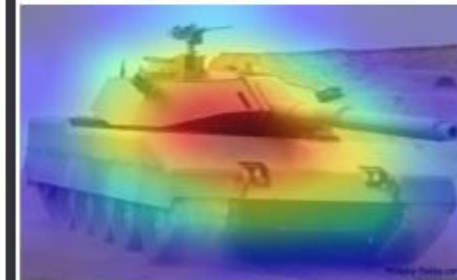
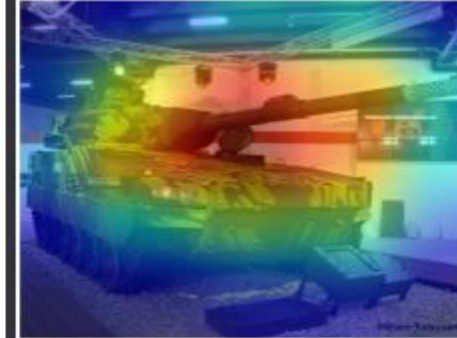
Bentley Continental GT Coupe 2012



Volkswagen Beetle Hatchback 2012



De voiture à Tank



De voiture à Tank



Conclusion

Augmentation du dataset

~80 -> 200 images par modèle
16k -> 40k total

GradCAM

Flouter les zones des
prédictions défectueuses

Interprétation des performances

- Recall
- F1 score

Questions
