

### Projet 6milarite

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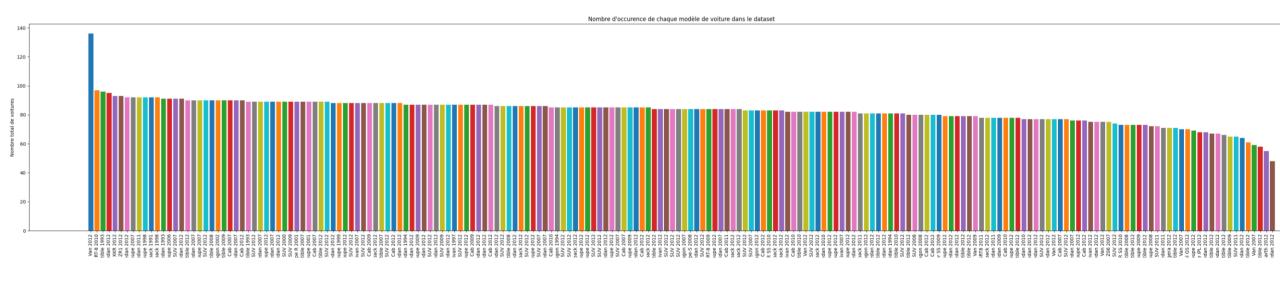
25 avril 2024



#### Introduction



#### Dataset







### 16k voitures 196 modèles différents

# Classification

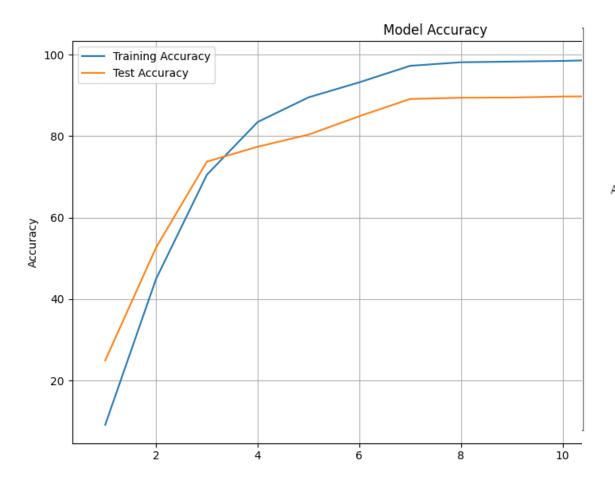


Aston Martin V8 Vantage Convertible 2012, confidence: 4.55





#### Résultats



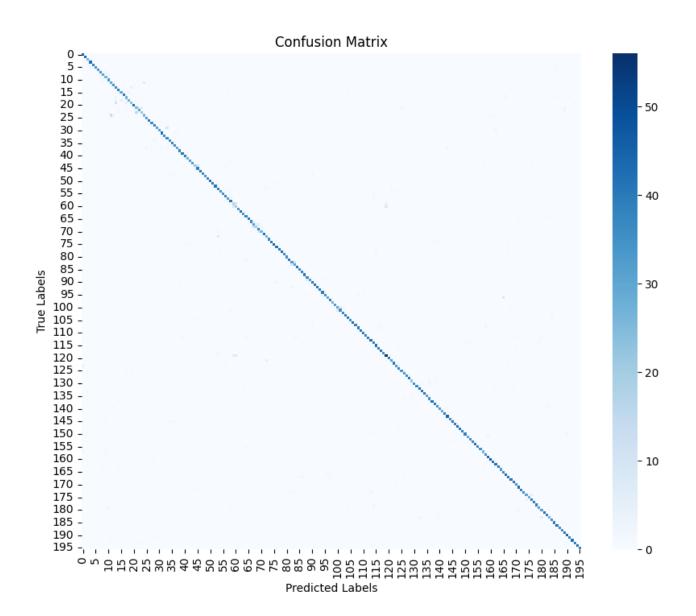
		precision	recall	f1-score	support
AM General Hummer SUV		0.75	0.94	0.83	16
Acura RL Sedan	2012	0.80	0.73	0.76	11
Acura TL Sedan	2012	0.81	1.00	0.89	17
Acura TL Type-S	2008	0.81	0.87	0.84	15
Acura TSX Sedan	2012	0.96	0.76	0.85	29
Acura Integra Type R	2001	0.87	0.91	0.89	22
Acura ZDX Hatchback	2012	0.93	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** 



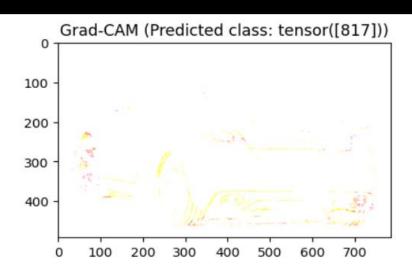
### Matrice de confusion

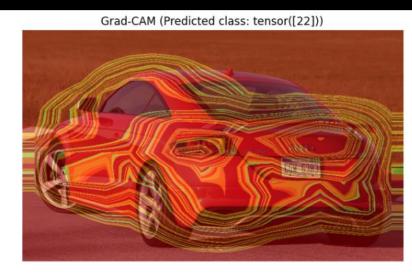




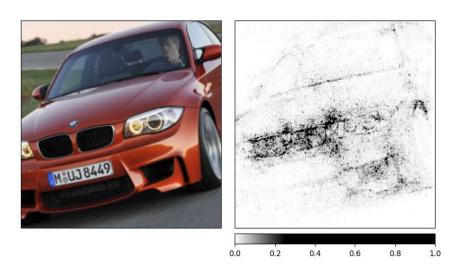
#### Grad-CAM et analyse des résultats













### Influence de la répartition des train/test datasets







50% train50% test

**70% train 30% test** 









Ram C-V Cargo Van Minivan



Suzuki SX4 Hatchback 2012\_13



Aston Martin V8 Vantage Coupe 2012\_8



Aston Martin Virage Coupe 2012\_8



Audi A5 Coupe 2012\_1



Audi A5 Coupe 2012\_2



Audi A5 Coupe 2012\_7



Audi A5 Coupe 2012\_10



Chevrolet Convertible Corvette Ron **Fellows Edition** Z06 2007\_7



Cargo Van

2007\_5



Chevrolet Silverado 2500HD Regular Cab 2012\_6



Acura ZDX

Hatchback

2012\_1

Daewoo Nubira Wagon 2002\_6



Dodge Caliber Dodge Sprinter Wagon 2012\_12 Cargo Van 2009\_7



Ford F-450 Super **Duty Crew Cab** 2012\_6



Ford Freestar Minivan 2007\_0



Honda Accord Coupe 2012\_4



**HUMMER H3T** Crew Cab 2010\_2



2012\_1

2012\_4

Jaguar XK XKR Jeep Patriot SUV 2012\_14



Lamborghini Aventador Coupe 2012\_12



2012\_13



Volkswagen Golf Hatchback 2012\_3



Audi 100 Wagon 1994\_1



Audi S4 Sedan 2012\_11



Bentley Continental Flying Spur Sedan 2007\_5



BMW M3 Coupe 2012\_10



Chevrolet Camaro Convertible 2012\_3



Chevrolet Express Cargo Van 2007\_11



Chevrolet Impala Sedan 2007\_6



**Chevrolet Monte** Carlo Coupe 2007\_3



**Chrysler Town** and Country Minivan 2012\_2



Ferrari 458 Italia Convertible 2012\_7



Fisker Karma Sedan 2012\_6



Audi 100 Wagon

1994\_0

GMC Savana Van 2012\_5



Jaguar XK XKR 2012\_6



Land Rover Range Rover SUV 2012\_13



Mercedes-Benz 300-Class Convertible



MINI Cooper Roadster Convertible



Nissan 240SX Coupe 1998\_12



Rolls-Royce Phantom Sedan 2012\_11



Spyker C8 Convertible 2009\_12



Spyker C8 Coupe 2009\_5







#### Bentley Continental GT Coupe 2012





['Volkswagen Beetle Hatchback 2012'] confidence: 5.346620559692383

# Volkswagen Beetle Hatchback 2012















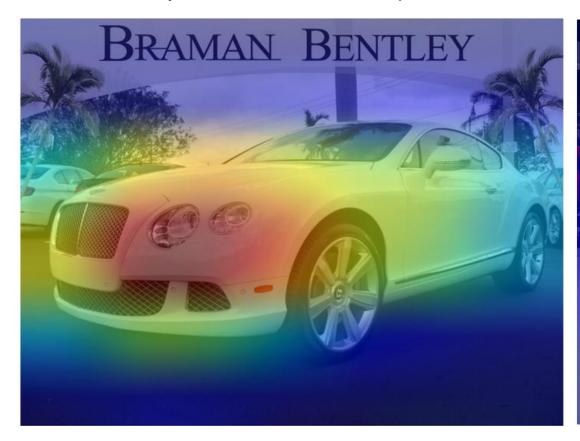








Bentley Continental GT Coupe 2012

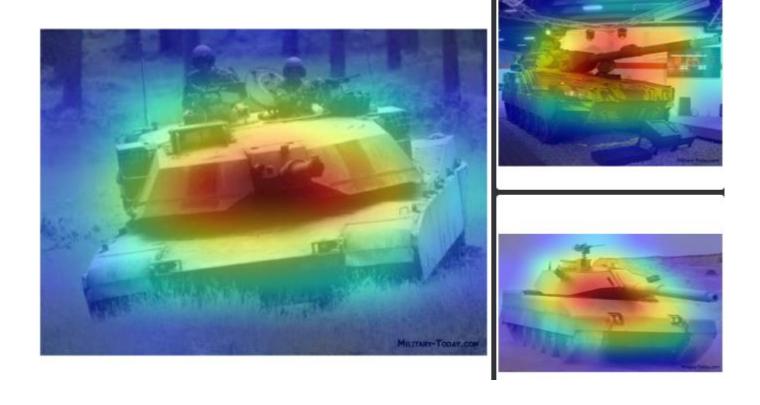


Volkswagen Beetle Hatchback 2012





# De voiture à Tank





# De voiture à Tank











### Conclusion



#### 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

