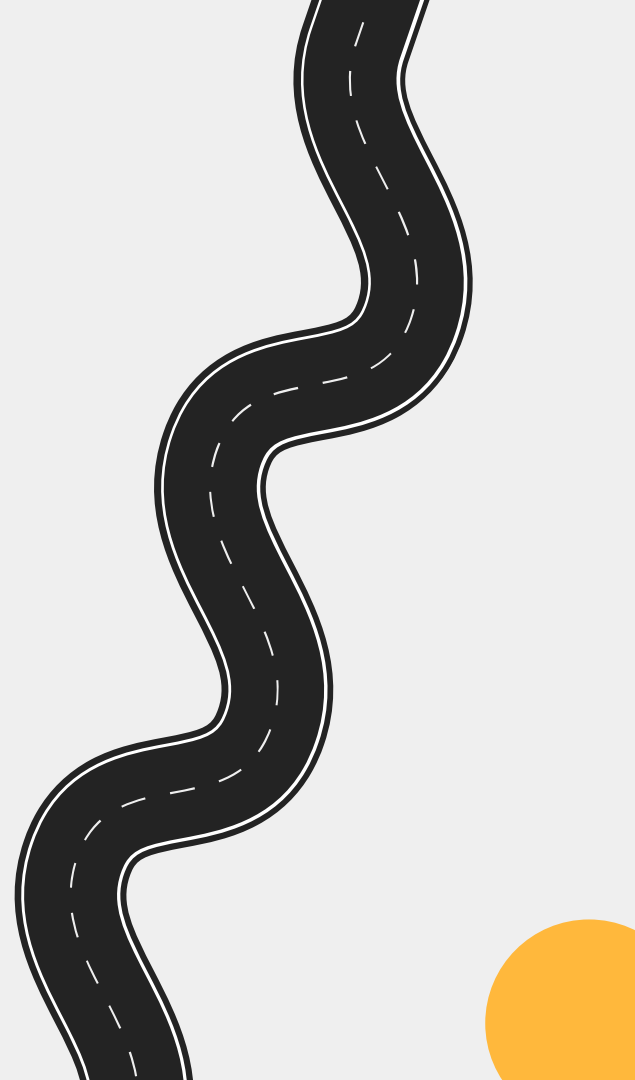


IA ACCIDENT DE LA ROUTE

Thomas Royer / Mathéo Tesniere / Bastien Huard



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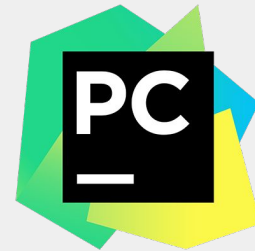
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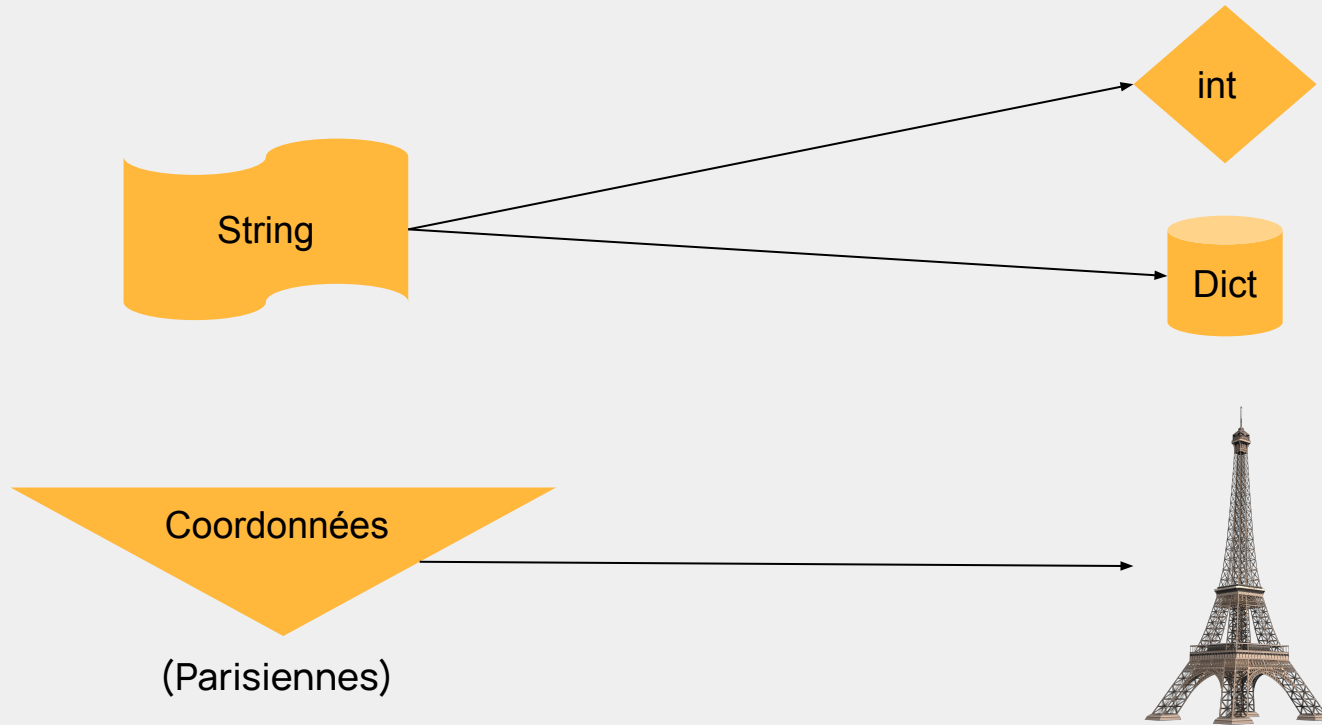
Conclusion

ORGANISATION DU TRAVAIL

TÂCHE	ATTRIBUÉE À	AVANCEMENT	DÉBUT	FIN	Lundi		Mardi		Mercredi		Jeudi
Découverte et préparation des données	Bastien Huard Mathéo Tesniere	100%	Lundi m	Lundi a							
Apprentissage non-supervisé	Bastien Huard Mathéo Tesniere	100%	Lundi m	Mercredi m							
Apprentissage supervisé	Thomas Royer	100%	Lundi m	Jeudi m							
Création de scripts utilisables en ligne de con	Bastien Huard Mathéo Tesniere	100%	Jeudi m	Jeudi m							



PRÉPARATION DES DONNÉES



APPRENTISSAGE NON-SUPERVISÉ



REDUCTION DE DIMENSION

$(x)^{??}$

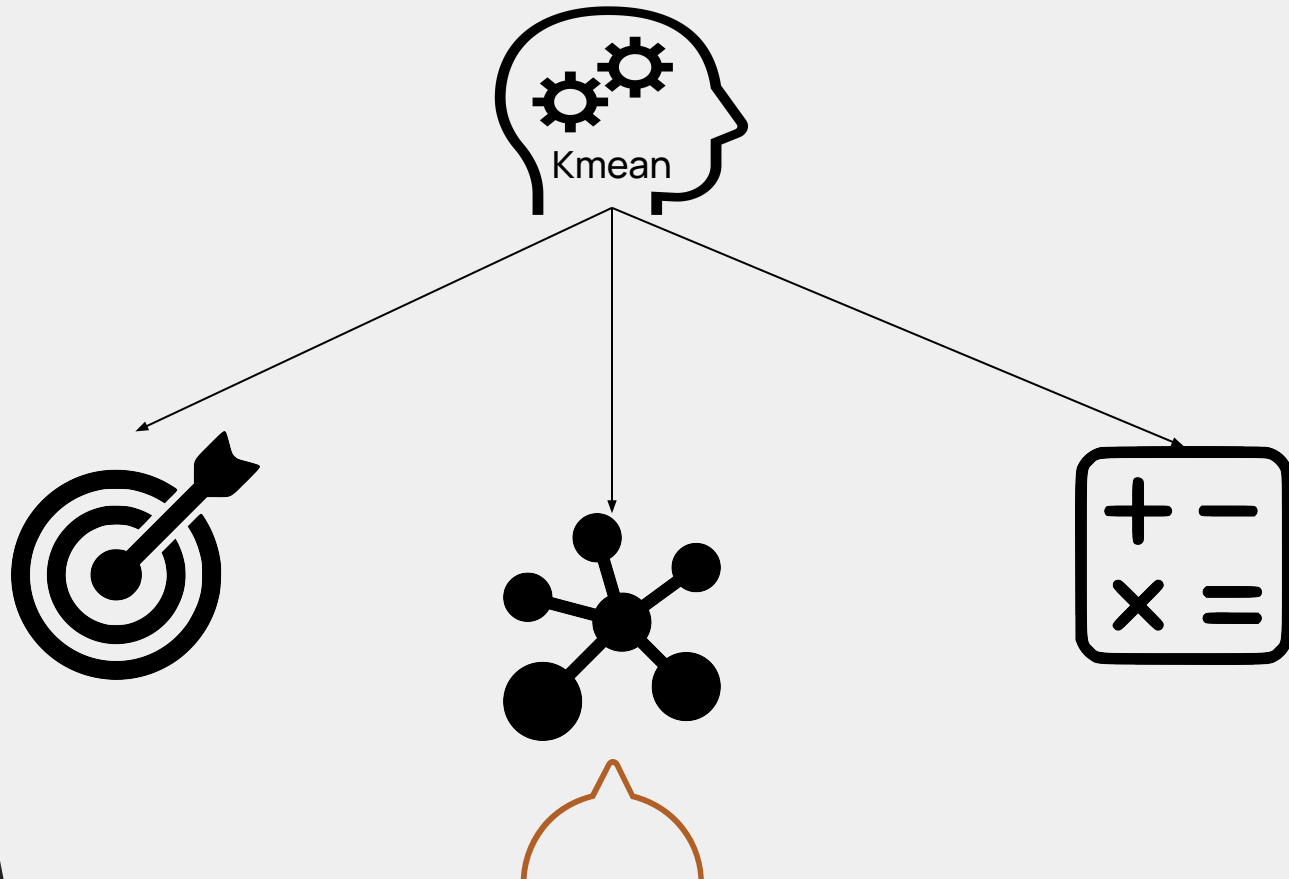
21 -----> 7

$[x]$

Perte de $\frac{1}{3}$ des données soit 66,67%

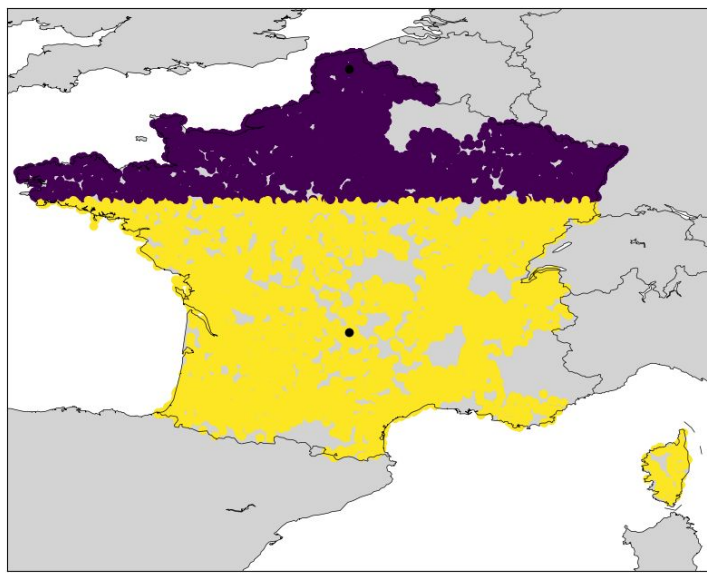


CLUSTERING

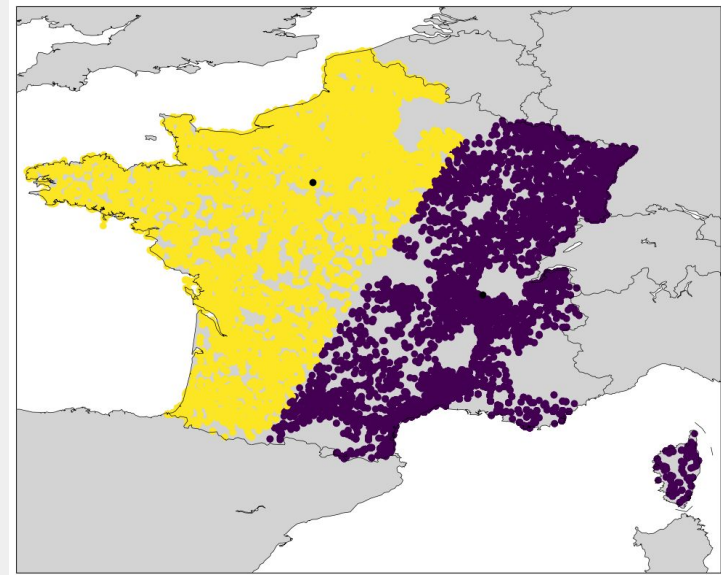


COMPARAISON KMEAN

Pour $k = 2$ et $n = 20$:



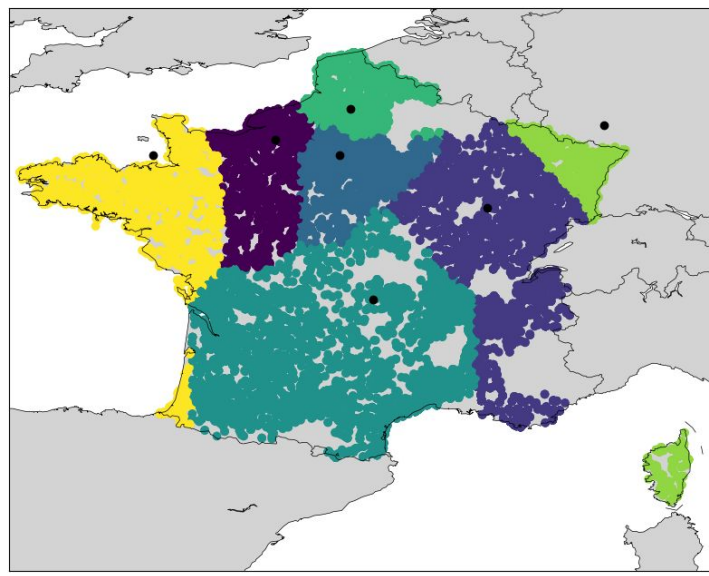
Kmean from scratch



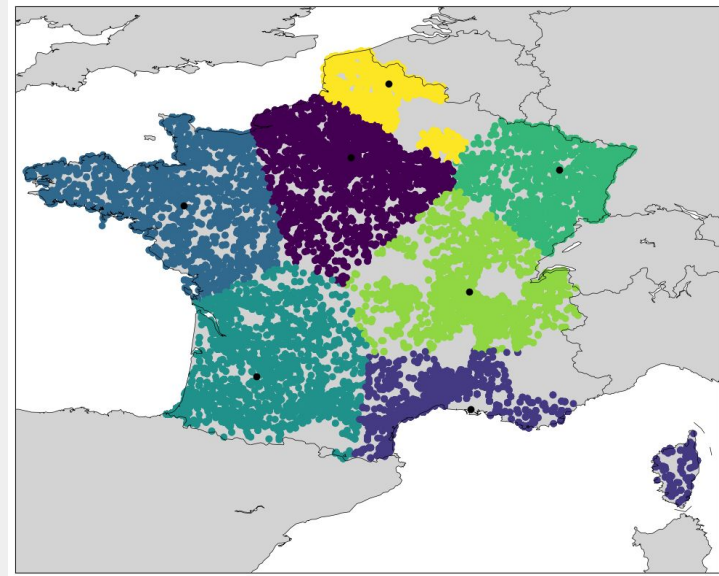
Kmean scikit-learn

COMPARAISON KMEAN

Pour $k = 7$ et $n = 20$:



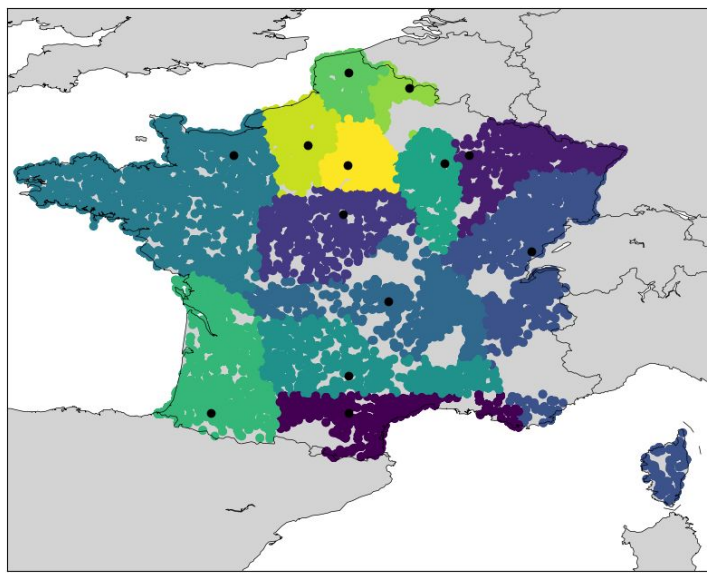
Kmean from scratch



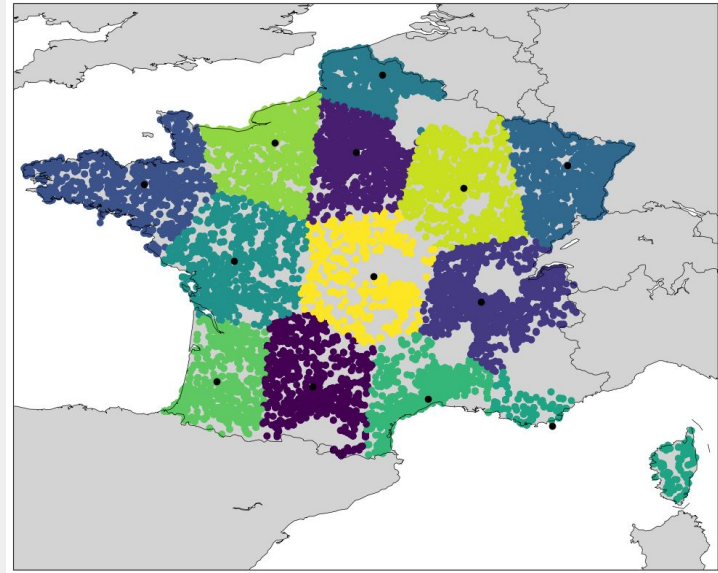
Kmean scikit-learn

COMPARAISON KMEAN

Pour $k = 13$ et $n = 20$:



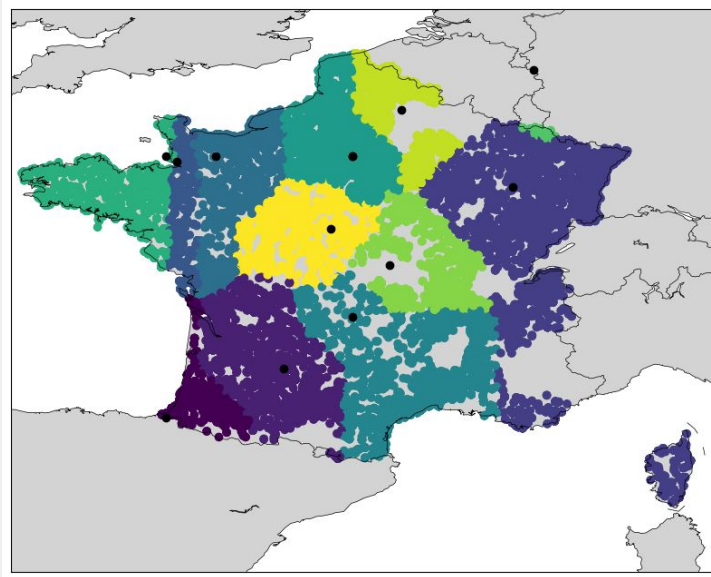
Kmean from scratch



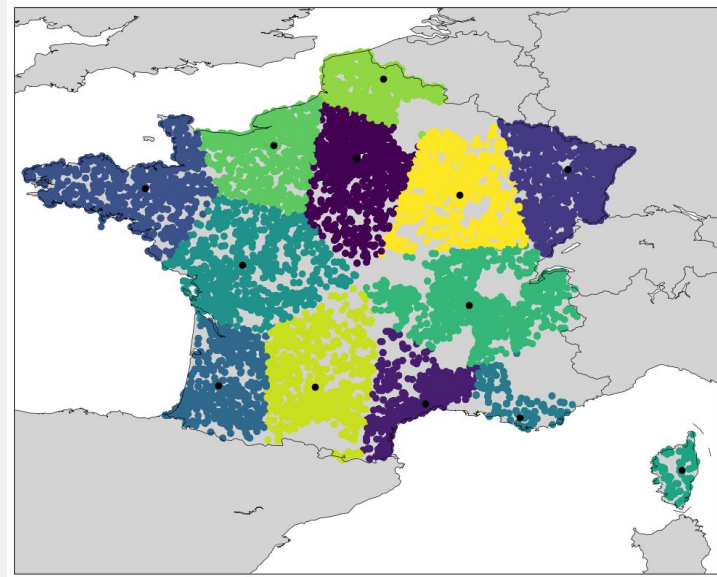
Kmean scikit-learn

COMPARAISON KMEAN

Pour $k = 13$ et $n = 100$:

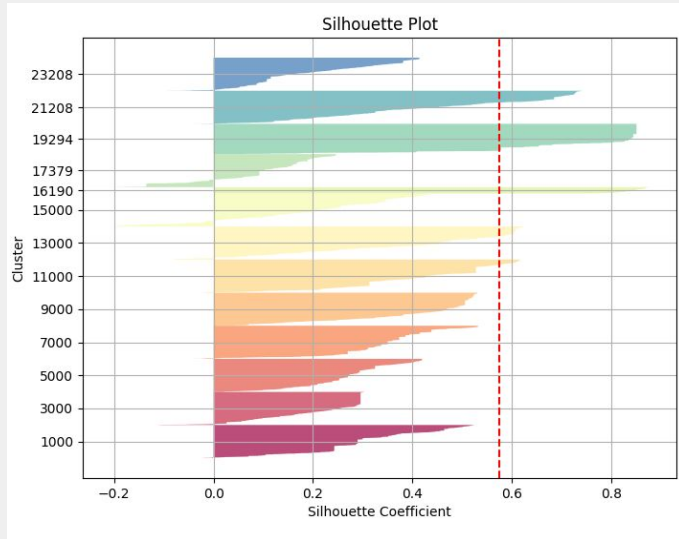


Kmean from scratch

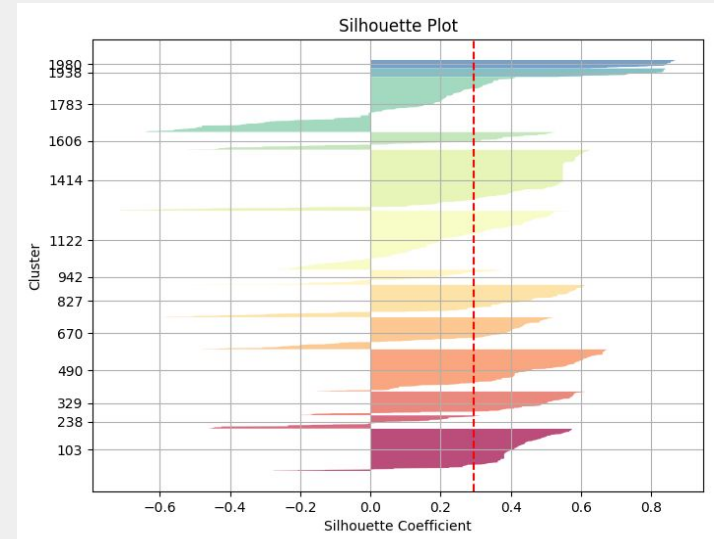


Kmean scikit-learn

EVALUATION

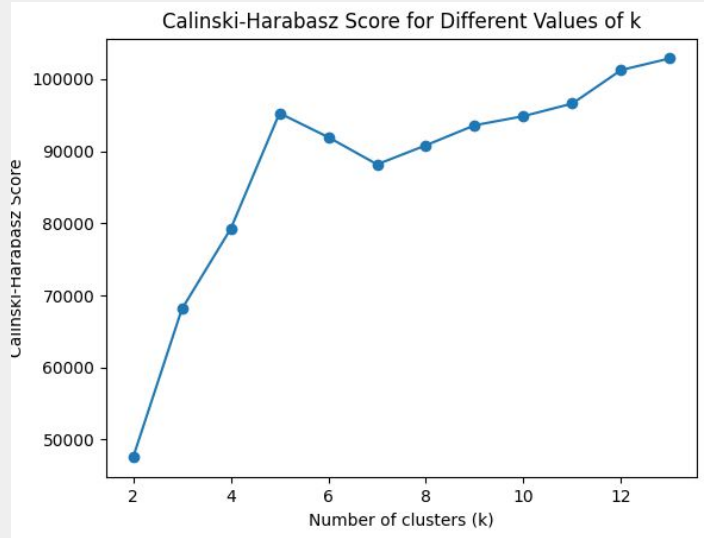


Kmean de sklearn
Score: 0,58

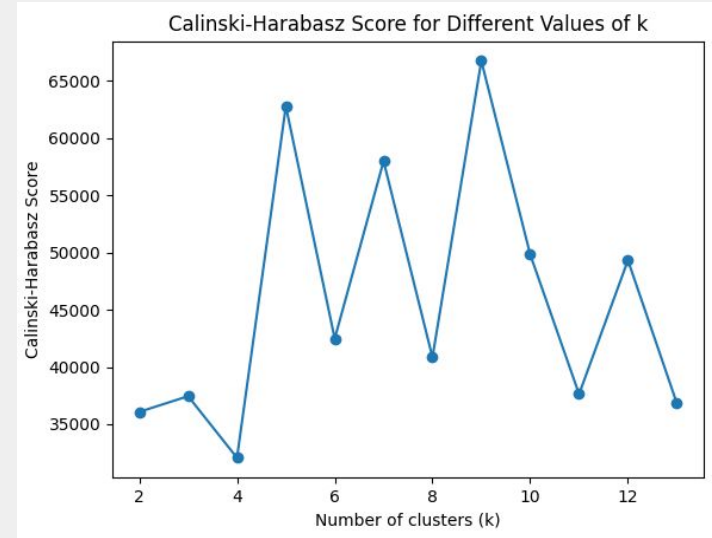


Kmean from scratch
Score: 0,30

EVALUATION

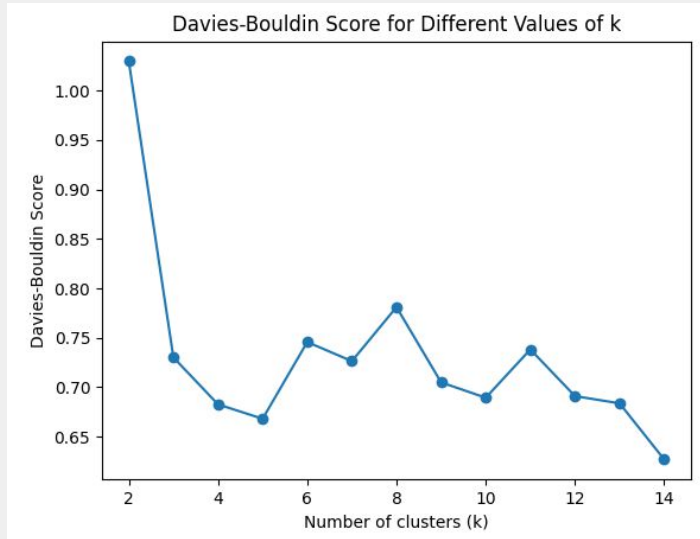


Kmean de sklearn

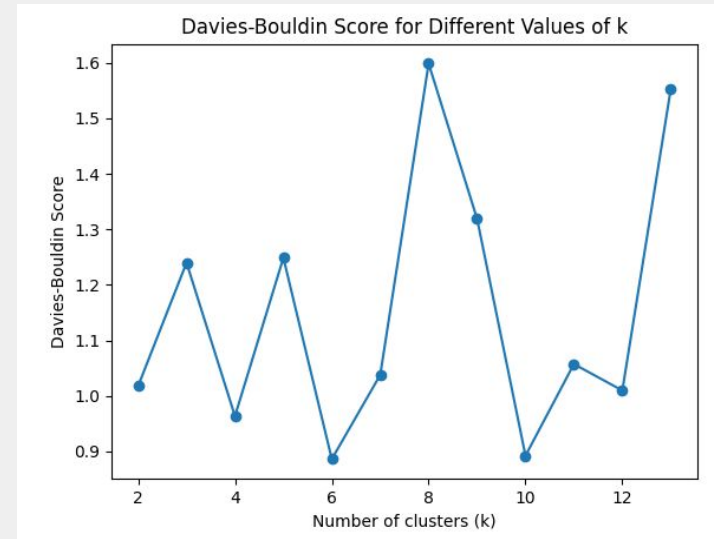


Kmean from scratch

EVALUATION

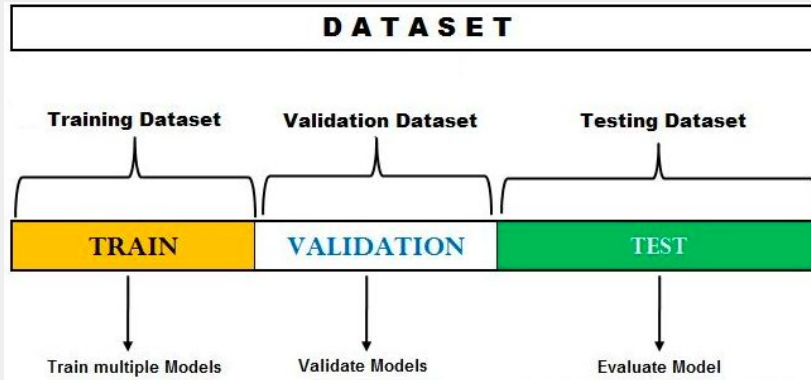


Kmean de sklearn

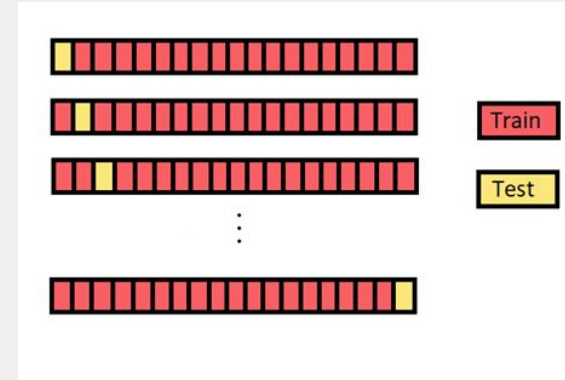


Kmean from scratch

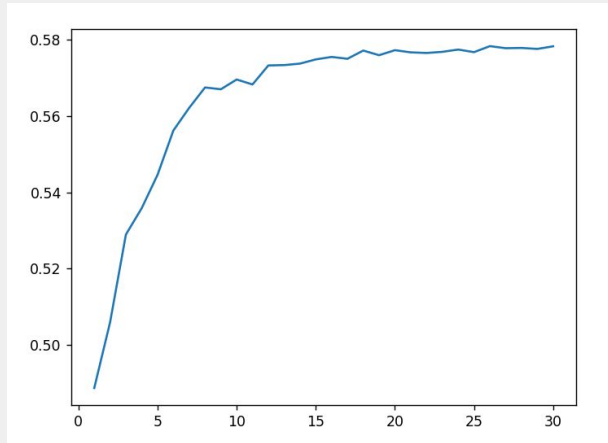
APPRENTISSAGE SUPERVISÉ



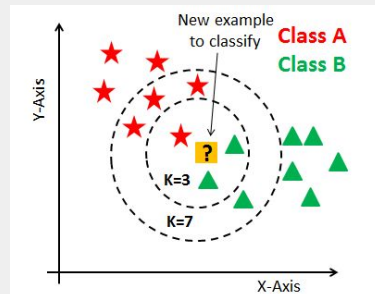
leave-one-out



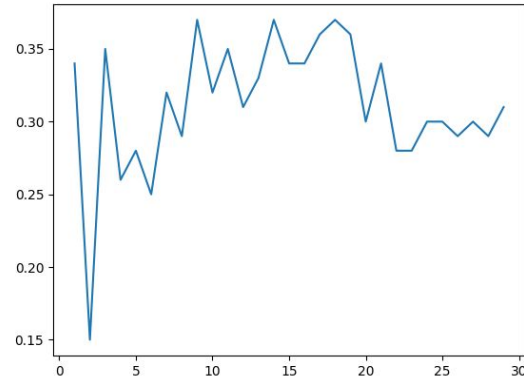
KNN



Sklearn
Précision : 59%



From scratch
Précision : 39%

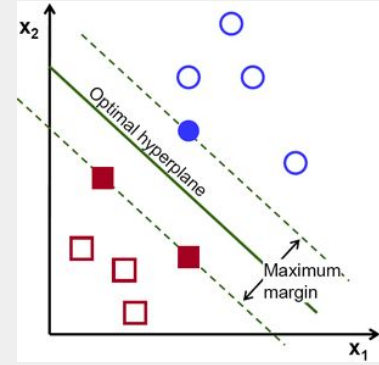


SVM

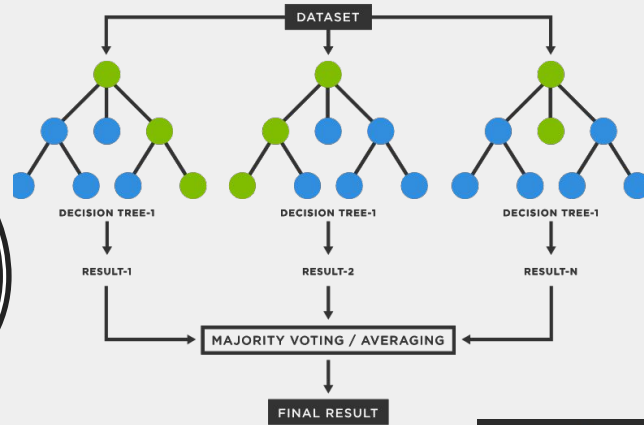


$C = 1$ et $\gamma = \text{auto}$

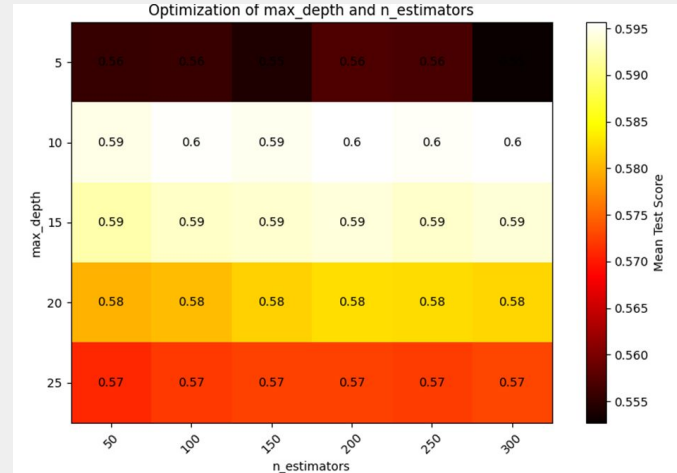
```
Matrice de confusion :  
[[5583   2  112  394]  
 [ 198   3  111   96]  
 [1240   1  803  871]  
 [2469   0  438 2162]]
```



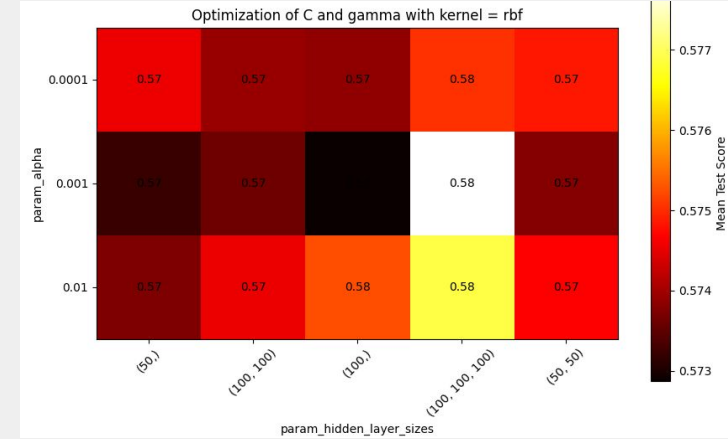
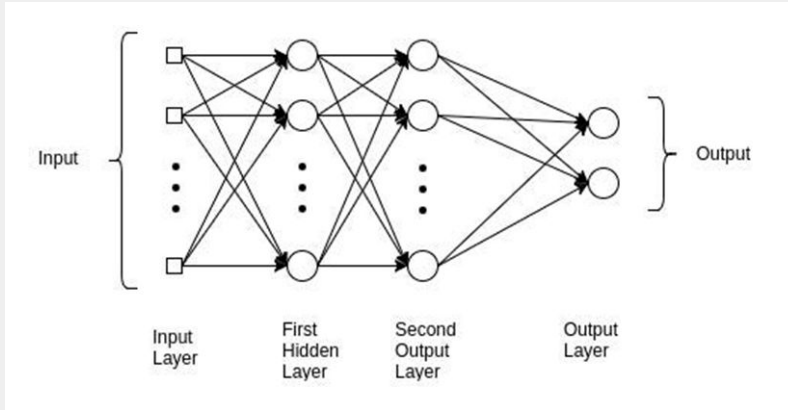
RANDOM FOREST



```
Rappel : 0.614246272777471
Précision : 0.6349516284892684
Matrice de confusion :
[[5573   0  150  384]
 [ 183   8  171   56]
 [1179   0 1162  583]
 [2376   0  503 2155]]
```



MLP



```
Rappel : 0.5911651021535063
Précision : 0.5840286398027893
Matrice de confusion :
[[5586   3  164  377]
 [ 172  26  133   73]
 [1191  20  862  845]
 [2419   3  518 2089]]
```

EXPORTS SCRIPTS

JSON



Kmean

JSON



KNN

JSON



Hauts
niveaux



CONCLUSION



MERCI

Avez-vous des questions ?