Qualité du vin

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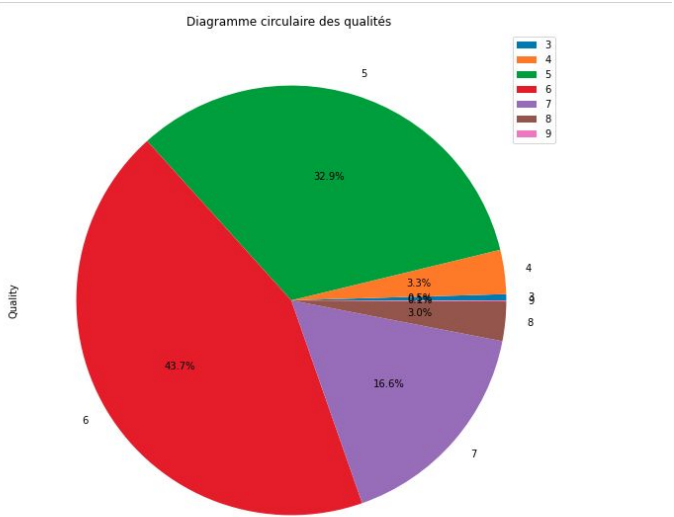
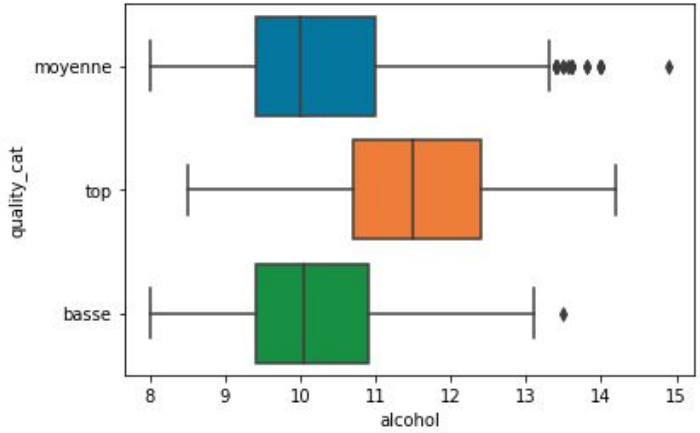
Prédire la qualité d’un vin à partir d’analyses psychochimique.

Prédire la qualité d’un vin sous forme d’une note allant de 0 à 10

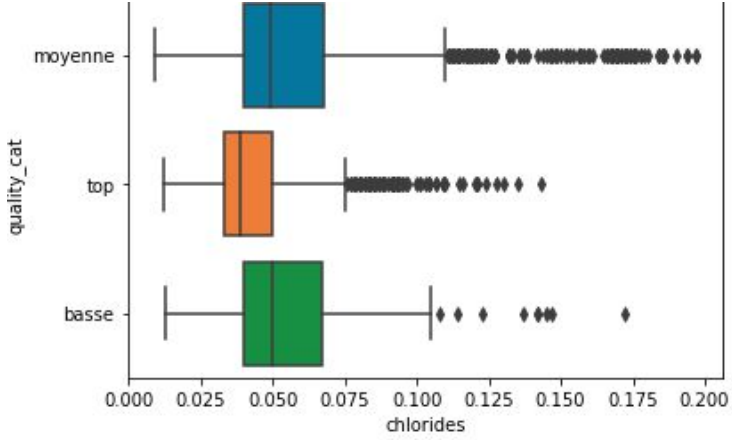
	fixed_acidity	volatile_acidity	citric_acid	residual_sugar	chlorides	free_sulfur_dioxide	total_sulfur_dioxide	density	pH	sulphates	alcohol	quality
0	7.0	0.270	0.36	20.7	0.045	45.0	170.0	1.00100	3.00	0.45	8.8	6
1	6.3	0.300	0.34	1.6	0.049	14.0	132.0	0.99400	3.30	0.49	9.5	6
2	8.1	0.280	0.40	6.9	0.050	30.0	97.0	0.99510	3.26	0.44	10.1	6
3	7.2	0.230	0.32	8.5	0.058	47.0	186.0	0.99560	3.19	0.40	9.9	6
6	6.2	0.320	0.16	7.0	0.045	30.0	136.0	0.99490	3.18	0.47	9.6	6

Analyse des données

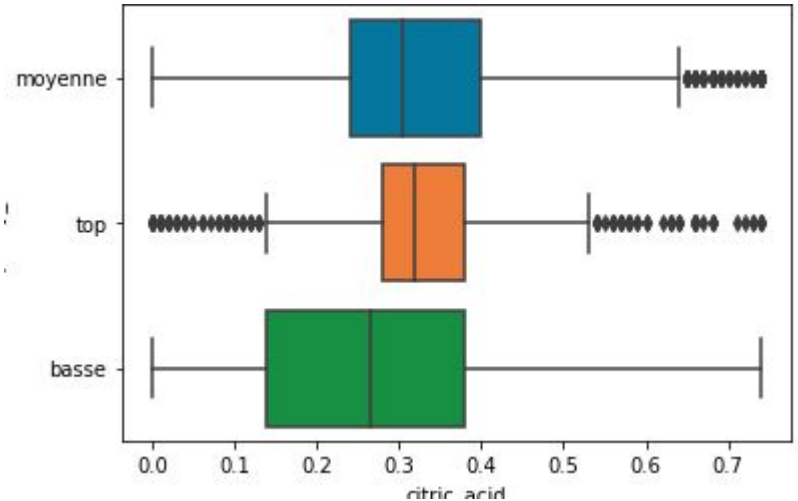


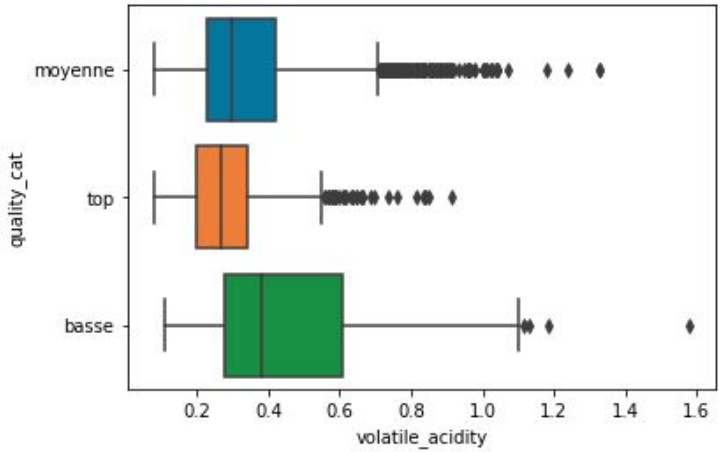


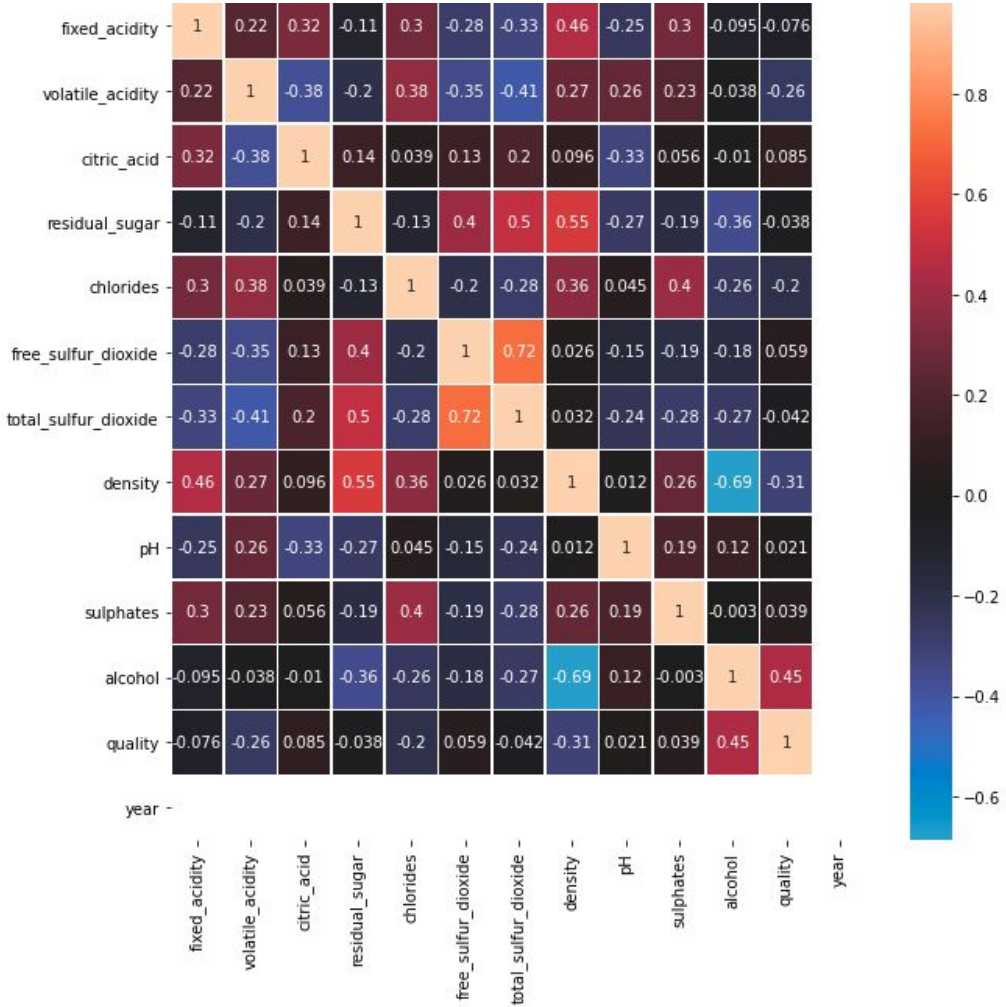
les vins de bonne qualité contiennent plus d'alcool que le autres



s vins de bonne qualitée sont en moyenne les moins salés


moyenne
top
basse
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
citric_acid

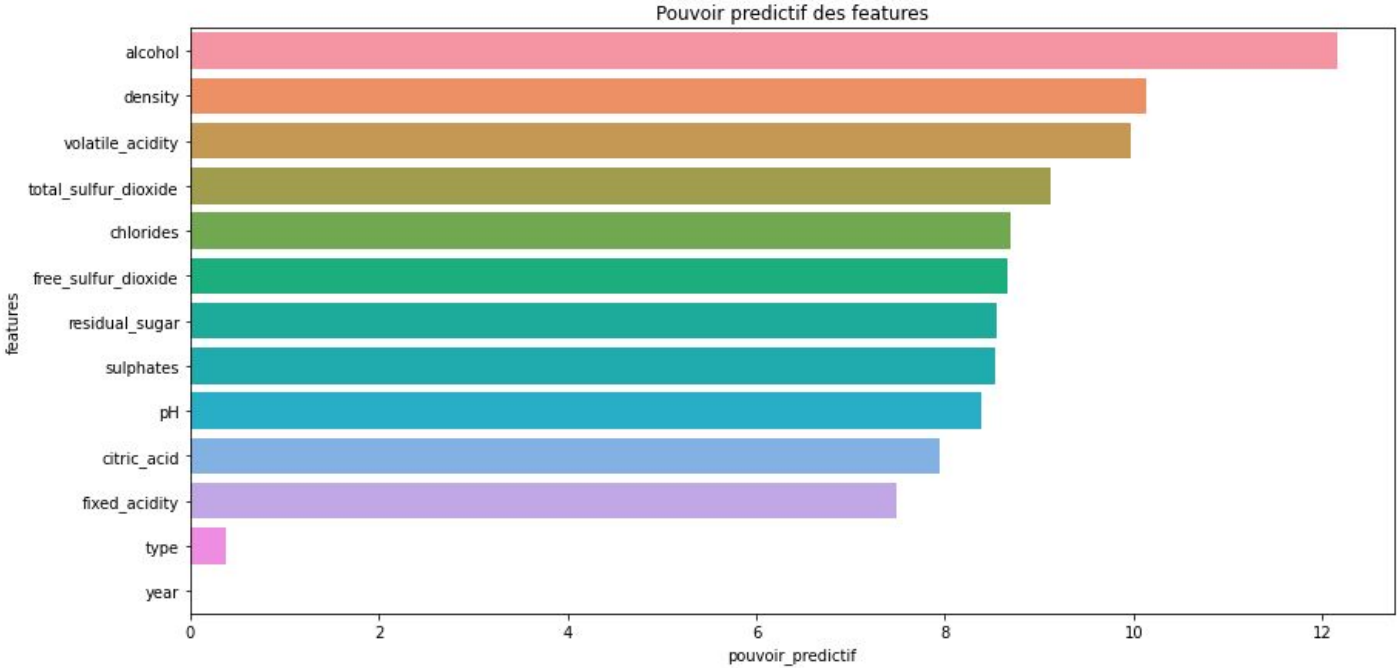

moyenne
top
basse
quality_cat
0.2
0.4
0.6
0.8
1.0
1.2
1.4
1.6
volatile_acidity


fixed_acidity 1 0.22 0.32 -0.11 0.3 -0.28 -0.33 0.46 -0.25 0.3 -0.095 -0.076
volatile_acidity 0.22 1 -0.38 -0.2 0.38 -0.35 -0.41 0.27 0.26 0.23 -0.038 -0.26
citric_acid 0.32 -0.38 1 0.14 0.039 0.13 0.2 0.096 -0.33 0.056 -0.01 0.085
residual_sugar -0.11 -0.2 0.14 1 -0.13 0.4 0.5 0.55 -0.27 -0.19 -0.36 -0.038
chlorides 0.3 0.38 0.039 -0.13 1 -0.2 -0.28 0.36 0.045 0.4 -0.26 -0.2
free_sulfur_dioxide -0.28 -0.35 0.13 0.4 -0.2 1 0.72 0.026 -0.15 -0.19 -0.18 0.059
total_sulfur_dioxide -0.33 -0.41 0.2 0.5 -0.28 0.72 1 0.032 -0.24 -0.28 -0.27 -0.042
density 0.46 0.27 0.096 0.55 0.36 0.026 0.032 1 0.012 0.26 -0.69 -0.31
pH -0.25 0.26 -0.33 -0.27 0.045 -0.15 -0.24 0.012 1 0.19 0.12 0.021
sulphates 0.3 0.23 0.056 -0.19 0.4 -0.19 -0.28 0.26 0.19 1 -0.003 0.039
alcohol -0.095 -0.038 -0.01 -0.36 -0.26 -0.18 -0.27 -0.69 0.12 -0.003 1 0.45
quality -0.076 -0.26 0.085 -0.038 -0.2 0.059 -0.042 -0.31 0.021 0.039 0.45 1
year
fixed_acidity
volatile_acidity
citric_acid
residual_sugar
chlorides
free_sulfur_dioxide
total_sulfur_dioxide
density
pH
sulphates
alcohol
quality
year
0.8
0.6
0.4
0.2
0.0
−0.2
−0.4
−0.6

Entrainement des modeles

Algorithme	Précision
Radom Forest	68.86 %
Kn Neighbors	47.88 %
Decision tree	56 %

Importance des données



API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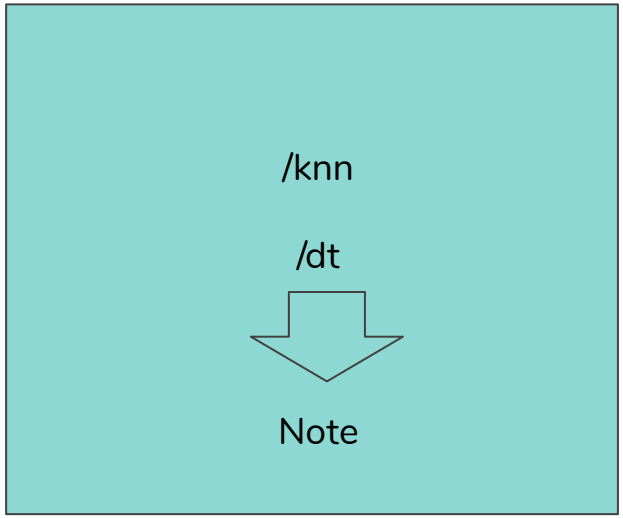
"volatile_acidity": 2.43,
"citric acid":1.8,
"residual sugar" : 2.4,
"chlorides": 0.72,
"free_sulfur_dioxide" : 0.5,
"total sulfur dioxide":1.7,
"density":1.2,
"pH": 3.8,
"sulphates": 4.2,
"alcohol":14.1,
"type": 0
}


post


/knn
/dt
Note

Mise en production