report

April 24, 2020

1 IEOR 165 Project: Wine Quality

1.1 Ethan Ding SID: 3033043613

1.1.1 Due Wednesday, May 6, 2020

Instructions The course project must be submitted on bCourses as a PDF file. You are allowed to consult and discuss with classmates and others, but each student must submit their own project writeup and code. The project will be graded on the basis of the quality of the modeling approach. You can use whichever software and libraries/packages you would like, and are not expected to implement statistical estimation algorithms yourself.

[1]:
```
import sys
import numpy as np
import pandas as pd

import matplotlib.pyplot as plt
%matplotlib inline

import seaborn as sns
```

[5]:
```
wine = pd.read_csv('wine-quality-red.csv')
wine
```

[5]:
```
     fixed acidity;"volatile acidity";"citric acid";"residual
sugar";"chlorides";"free sulfur dioxide";"total sulfur
dioxide";"density";"pH";"sulphates";"alcohol";"quality"
0       7.4;0.7;0;1.9;0.076;11;34;0.9978;3.51;0.56;9.4;5
1       7.8;0.88;0;2.6;0.098;25;67;0.9968;3.2;0.68;9.8;5
2      7.8;0.76;0.04;2.3;0.092;15;54;0.997;3.26;0.65;…
3      11.2;0.28;0.56;1.9;0.075;17;60;0.998;3.16;0.58…
4       7.4;0.7;0;1.9;0.076;11;34;0.9978;3.51;0.56;9.4;5
…                                                     …
1594  6.2;0.6;0.08;2;0.09;32;44;0.9949;3.45;0.58;10.5;5
1595  5.9;0.55;0.1;2.2;0.062;39;51;0.99512;3.52;0.76…
1596  6.3;0.51;0.13;2.3;0.076;29;40;0.99574;3.42;0.7…
1597  5.9;0.645;0.12;2;0.075;32;44;0.99547;3.57;0.71…
1598  6;0.31;0.47;3.6;0.067;18;42;0.99549;3.39;0.66;…
```

```
[1599 rows x 1 columns]
```

[14]:
```
!jupyter nbconvert report.ipynb --to pdf
```

```
[NbConvertApp] Converting notebook report.ipynb to pdf
[NbConvertApp] Writing 24343 bytes to ./notebook.tex
[NbConvertApp] Building PDF
[NbConvertApp] Running xelatex 3 times: ['xelatex', './notebook.tex', '-quiet']
[NbConvertApp] Running bibtex 1 time: ['bibtex', './notebook']
[NbConvertApp] WARNING | bibtex had problems, most likely because there were no
citations
[NbConvertApp] PDF successfully created
[NbConvertApp] Writing 30575 bytes to report.pdf
```

[ ]:
```
```