WINE QUALITY PREDICTION: A DATA SCIENCE APPROACH

ANSHUMAN 22SCSE1420049
GAURAV 22SCSE1420035
BHARAT SHARMA 22SCSE1420108

INTRODUCTION

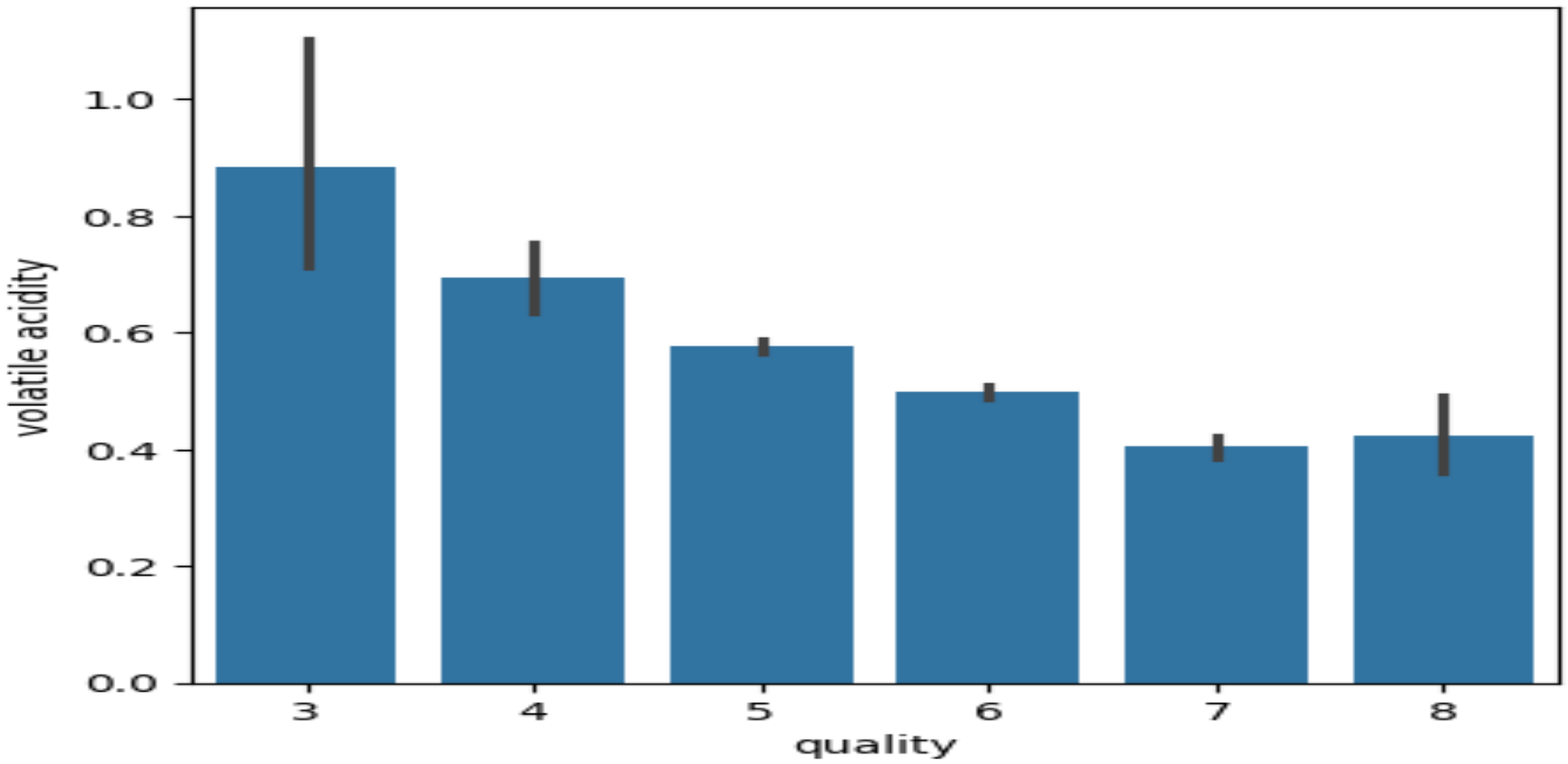
WHAT IS WINE QUALITY PREDICTION?

A PROCESS OF USING DATA SCIENCE TECHNIQUES TO PREDICT THE QUALITY OF WINE BASED ON VARIOUS FACTORS.

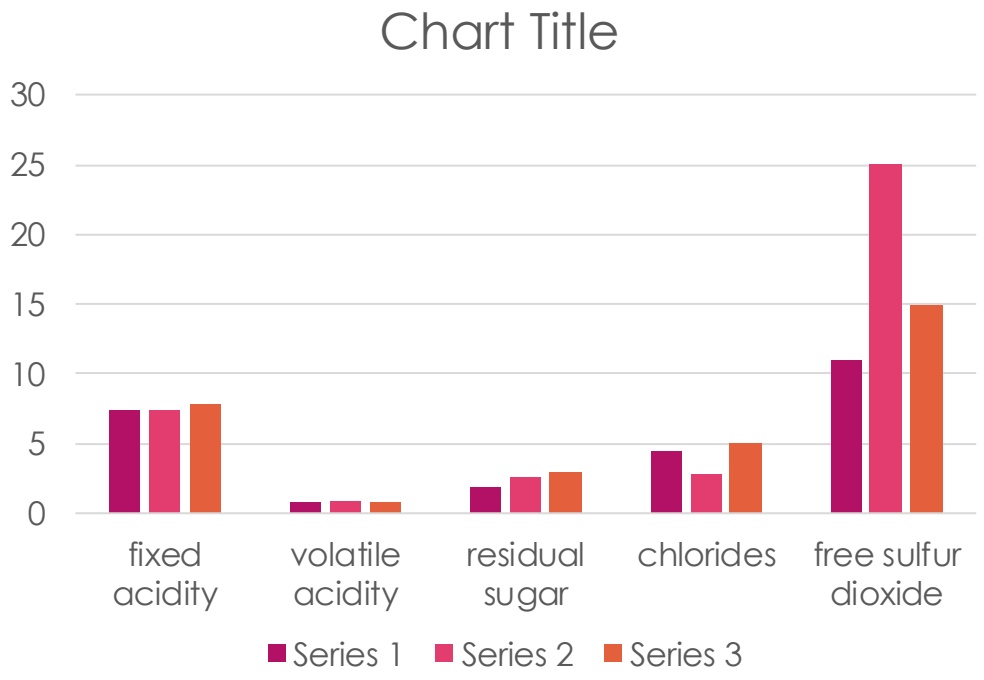
Why is it important? *Helps winemakers improve production processes.*
Assists consumers in making informed choices.
Provides valuable insights for the wine industry.

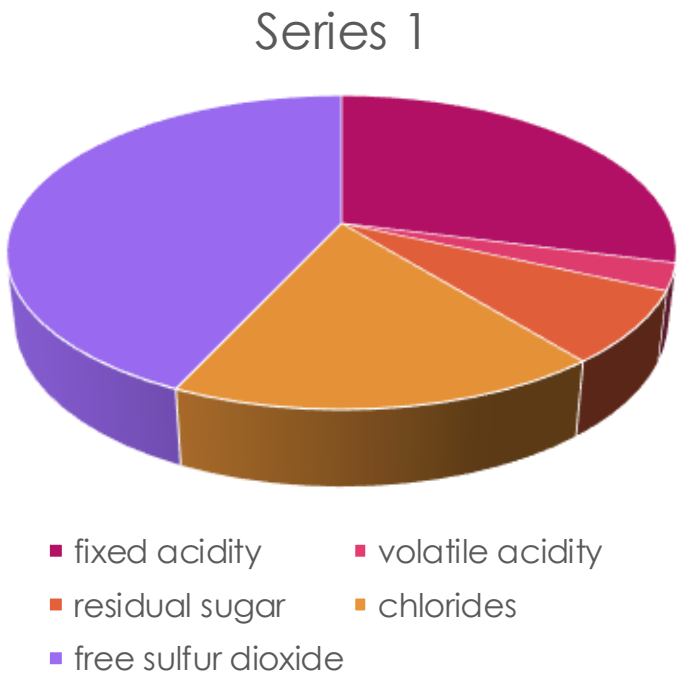
The attributes commonly used in wine quality prediction are:

Fixed Acidity: The amount of non-volatile acids in the wine, primarily tartaric acid.
Volatile Acidity: The amount of acetic acid in the wine, which can give it a vinegar-like taste if present in high amounts.
Citric Acid: A preservative that adds freshness and flavor to wines.
Residual Sugar: The amount of sugar remaining after fermentation.
Chlorides: The amount of salt in the wine.
Free Sulfur Dioxide: A preservative that prevents microbial growth and oxidation.
Total Sulfur Dioxide: The total amount of free and bound forms of sulfur dioxide.
Density: The density of the wine, which is related to its alcohol content and sugar level.
pH: A measure of the acidity or alkalinity of the wine.
Sulphates: A wine additive that contributes to sulfur dioxide levels and acts as an antimicrobial and antioxidant.

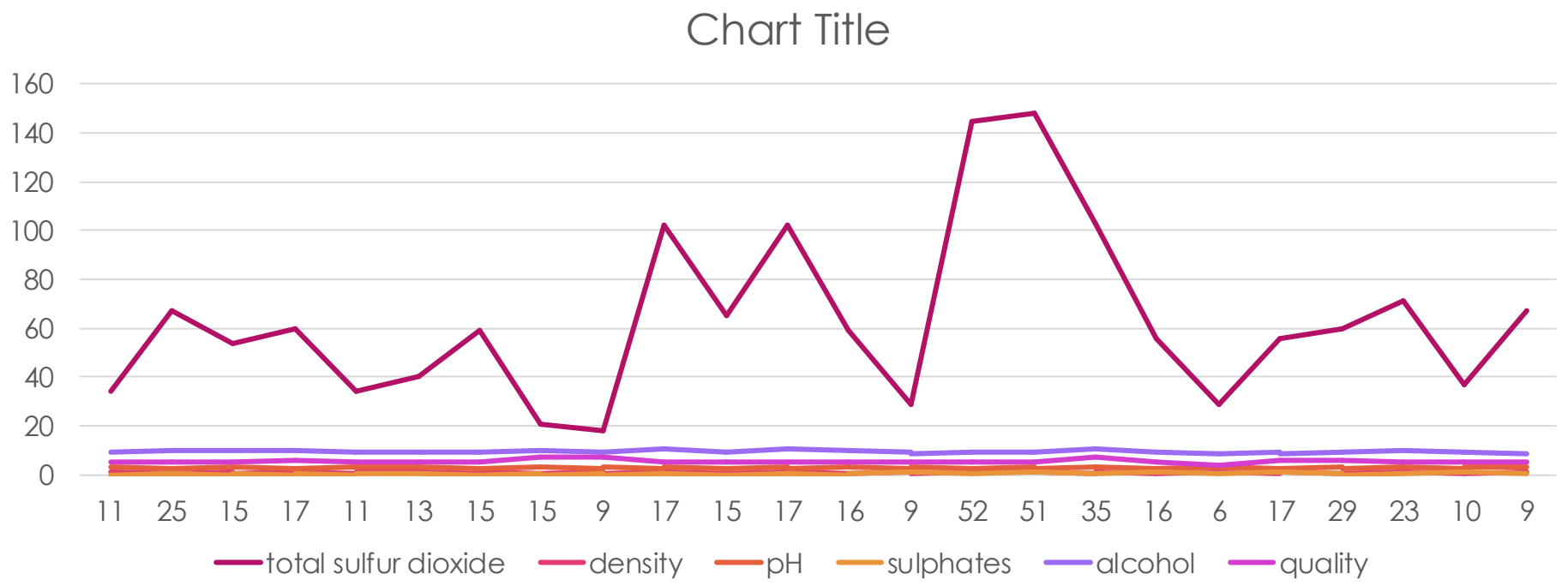

volatile acidity
1.0
0.8
0.6
0.4
0.2
0.0
3
4
5
6
7
8
quality

Data analysis



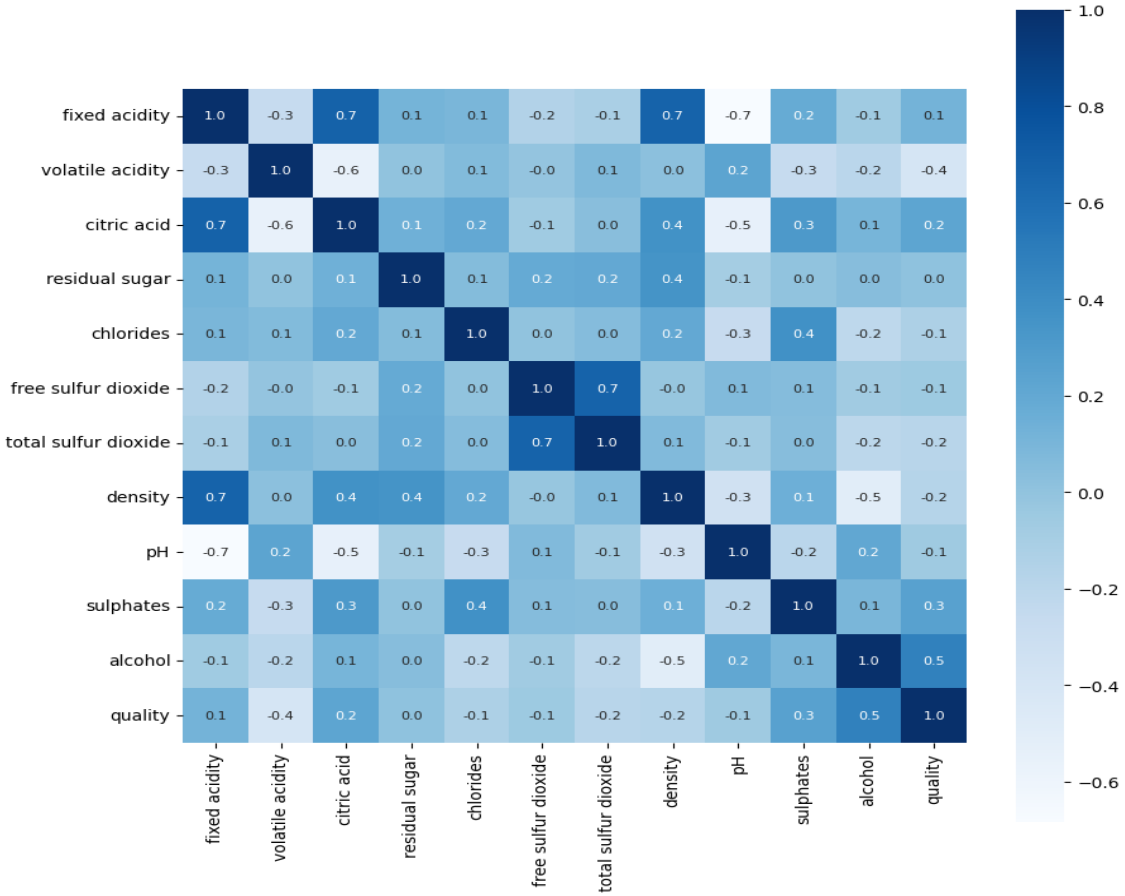


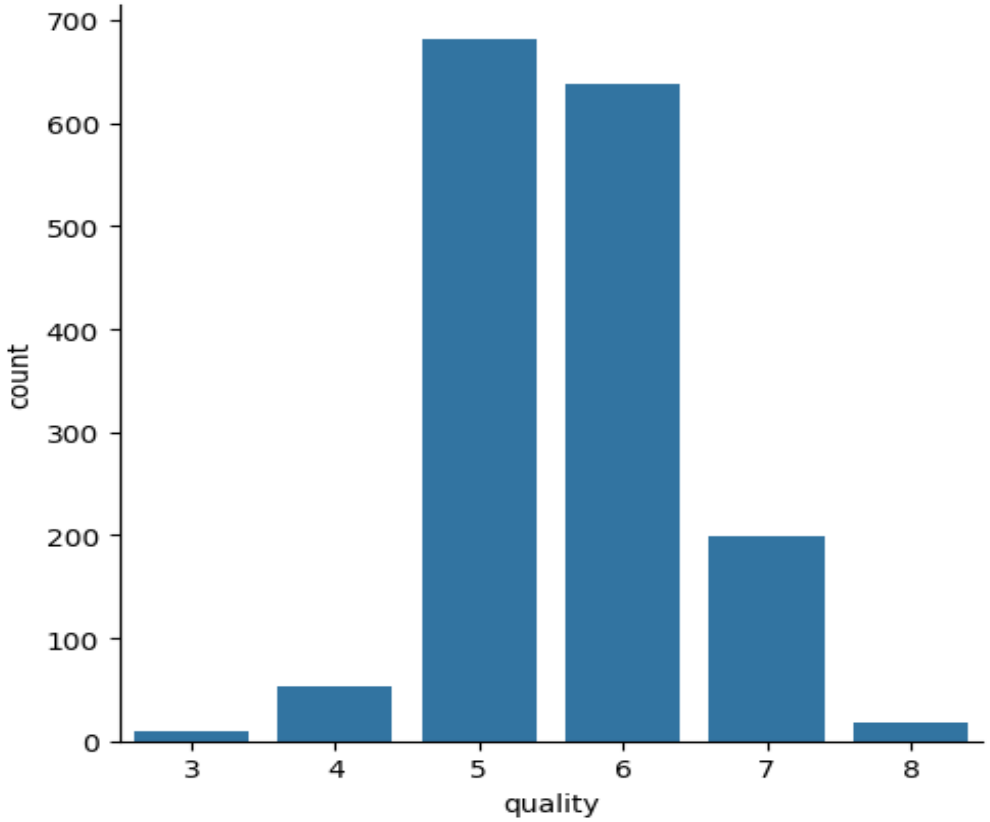
Data analysis



Training process: Splitting data into training and testing sets
Training the selected models on the training data
Evaluating model performance on the testing data using the chosen metrics

Data analysis





Thankyou

Source Code

Datasets

Code review

Ctrl + click to follow link :

THANKYOU