

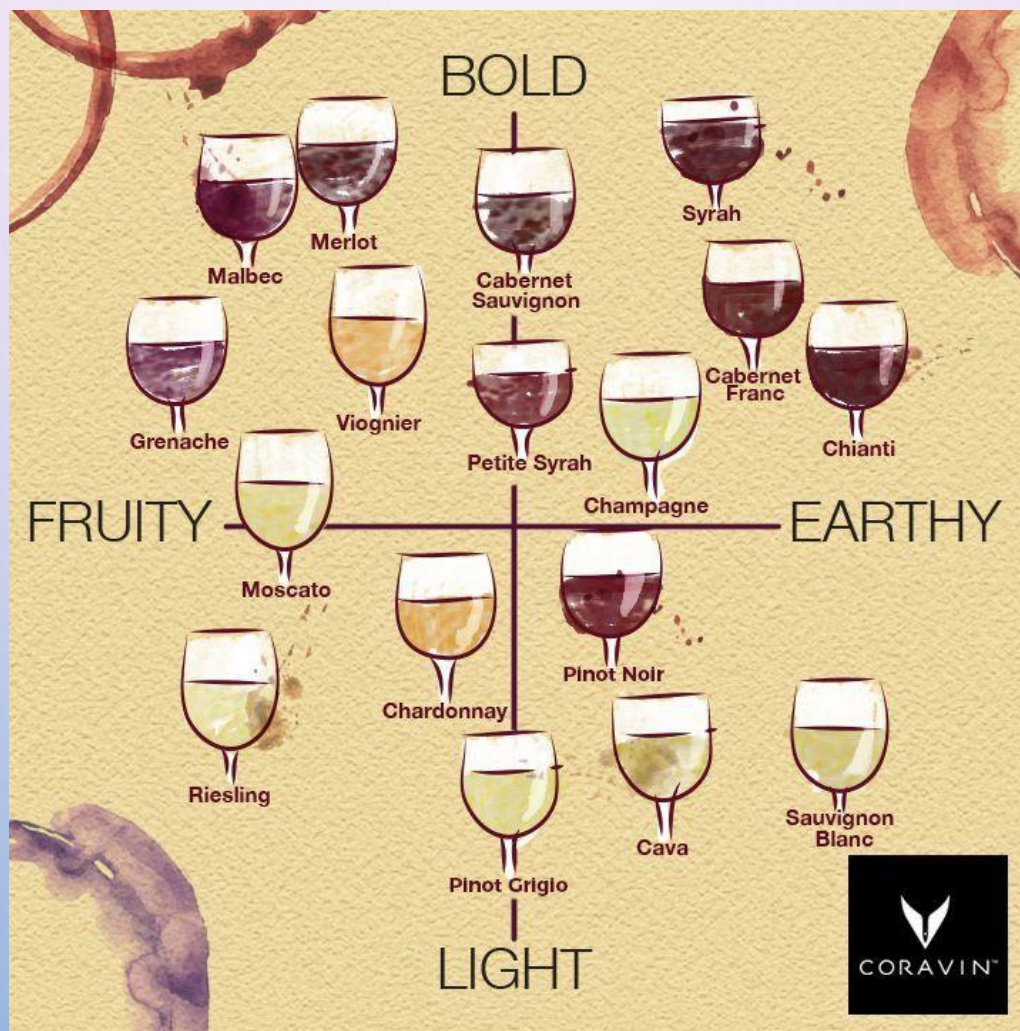
# **WINE TASTING PREDICTIONS**

# 50 STATES OF WINE



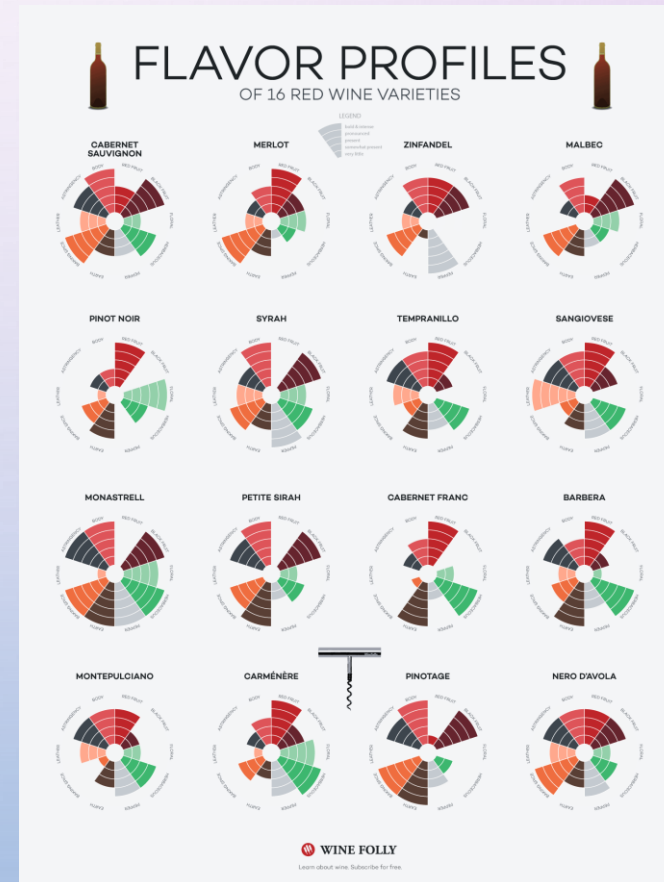
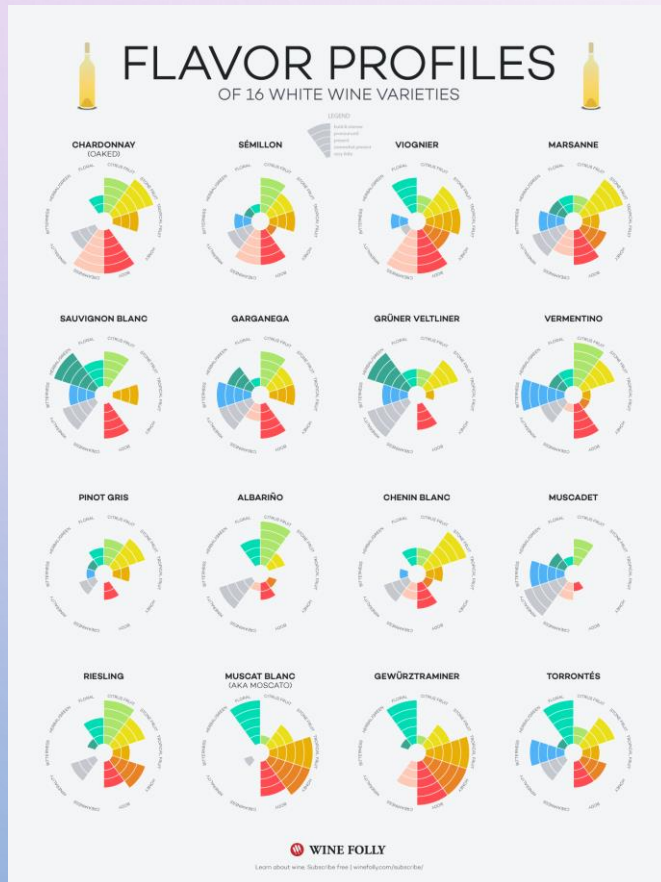


# WINE ATTRIBUTES



Source: Coravin

# BACKGROUND OF THE PROBLEM



Source: Wine Folly

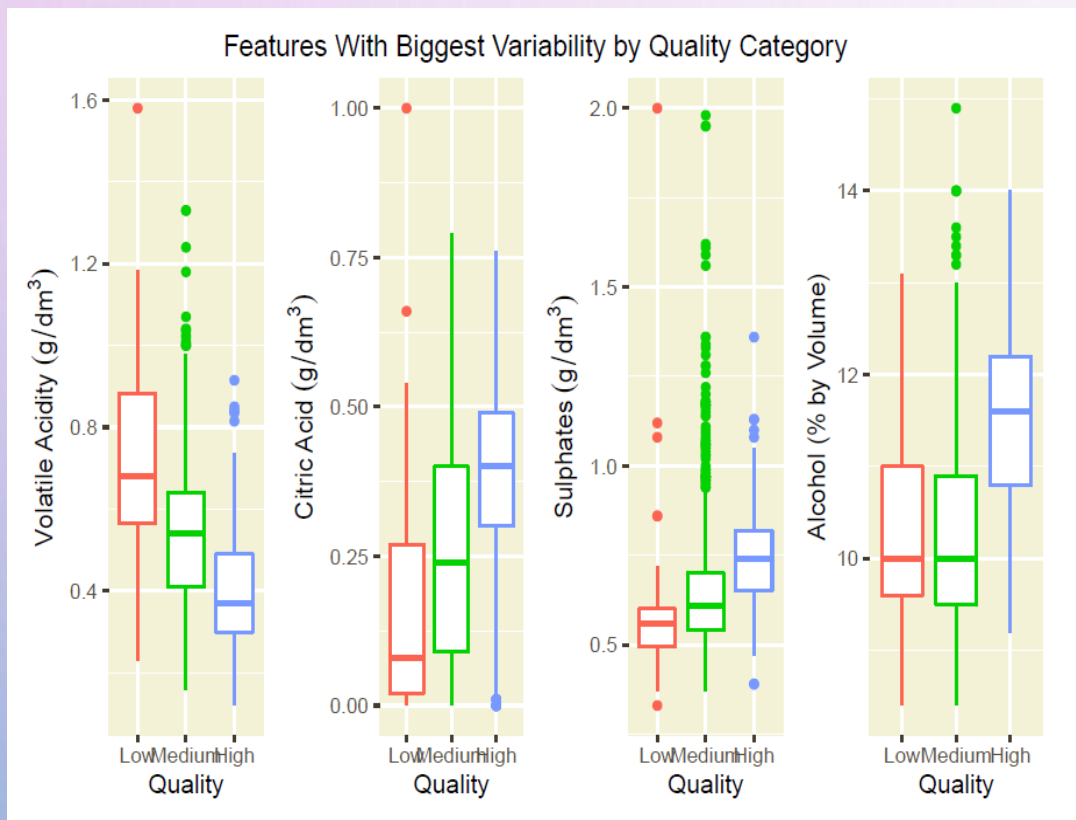
# DATA UNDERSTANDING



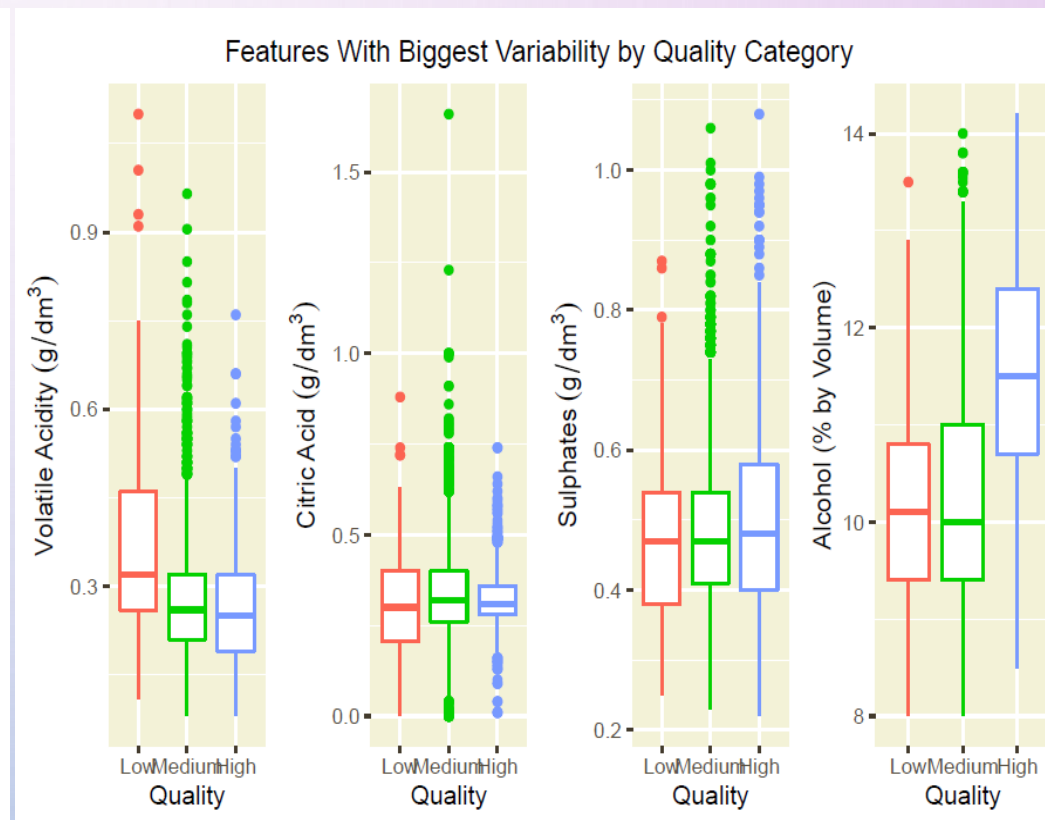
Source: Wine Folly



# METHODS



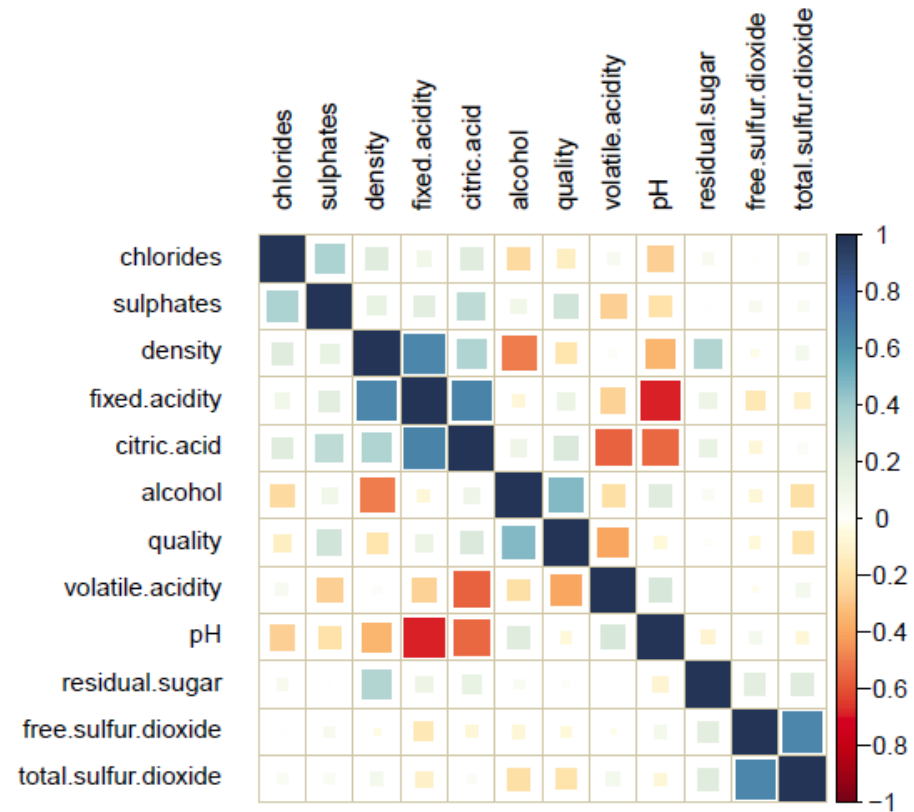
Red Wine Variables



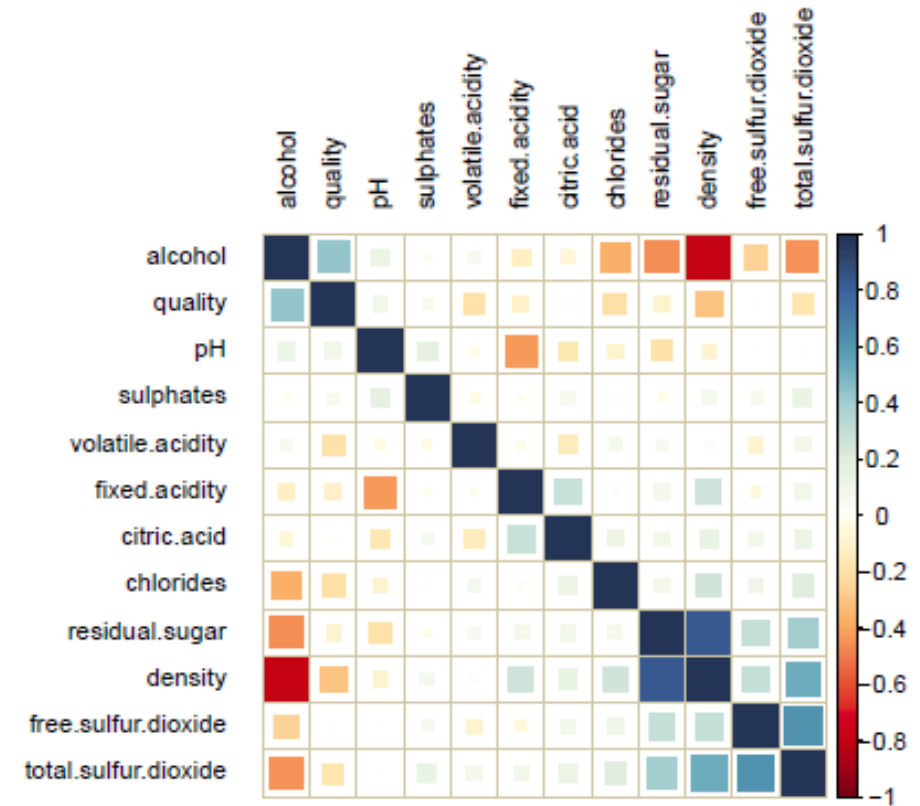
White Wine Variables



# METHODS



Red Wine Correlation Matrix



White Wine Correlation Matrix



# MODELING AND RESULTS WITH R

- BINOMIAL LOGISTIC REGRESSION MODELS
- TRAINING SET ACCURACY: 77% RED WINE, 77% WHITE WINE
- TESTING SET ACCURACY: 75% RED WINE, 78% WHITE WINE
- BEST VARIABLES:
  - FREE SULFUR DIOXIDE
  - DENSITY
  - SULPHATES
  - RESIDUAL SUGAR
  - ALCOHOL
  - VOLATILE ACIDITY





# MODELING AND RESULTS WITH PYTHON

- LINEAR REGRESSION MODELS
- TRAINING SET ACCURACY: 65% RED WINE, 75% WHITE WINE
- TESTING SET ACCURACY: 63% RED WINE, 76% WHITE WINE
- BEST VARIABLES:
  - SULFATES HAVE POSITIVE CORRELATION FOR RED WINE QUALITY
  - VOLATILE ACIDITY, DENSITY HAVE NEGATIVE CORRELATION FOR RED WINE QUALITY
  - SULFATES, PH HAVE POSITIVE CORRELATION FOR WHITE WINE QUALITY
  - VOLATILE ACIDITY, DENSITY HAVE NEGATIVE CORRELATION FOR WHITE WINE QUALITY



# CONCLUSION



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