

Proposal for Wine Quality Prediction

Introduction

Wine quality is an important factor in the wine industry, impacting consumer preferences, pricing strategies, and market demand. Traditional methods of evaluating wine quality often rely on expert tasters which can be subjective, time-consuming, and costly.

This project focuses on developing a machine learning model to predict wine quality using publicly available datasets (<https://archive.ics.uci.edu/dataset/186/wine+quality>) , enhancing decision-making processes in the wine section.

Objectives

1. Examine the physicochemical properties of wine to identify key factors influencing quality that includes fixed acidity, volatile acidity, citric acid, residual sugar, chlorides, free sulphur dioxide, total sulfur dioxide, density, pH, sulphates and alcohol.
2. Enhance the model for accuracy and interpretability.
3. Provide insights into how physicochemical attributes correlate with wine quality.

Expected Outcomes

1. A machine learning model that can predict wine quantity with great precision.
2. Insights into the physicochemical properties that most significantly impact wine quality.