Wine Quality Prediction System through a Data Mining Approach

Presented by:

Munshi Saifuzzaman
Reg. No. 2016331094
Dept. of CSE, SUST

Presented to:

Md. Forhad Rabbi
Associate Professor
Dept. of CSE, SUST

on May 28, 2021

Wine Quality Test

» Initials

Wine

- an alcoholic drink typically made from fermented grapes
- Once viewed as a luxury good
- nowadays wine is increasingly enjoyed by a wider range of consumers

Idea Overview

- Build an interface to predict the quality of the red wine. (Through data mining approach)
- Result of the system: Quality of wine, given chemical information and machine learning model.

Motivations

» Motivations

Wine itself!

- **Lowers** bad cholesterol
- **Keeps** heart healthy
- **Regulates** blood sugar
- **Reduces** the risk of cancer and many more!

Wine Industry

- To **support its growth**, wine industry is investing in new technologies for both **wine making and selling** processes.

» Motivations (cont.)

Wine certification

* prevents the illegal adulteration of wines (to safeguard human health)
* assures quality for the wine market

Quality Assessment

* often part of the certification process
* used to improve wine making (by identifying the most influential factors)
* used to stratify wines such as premium brands (useful for setting prices)

Existing Limitations

» Existing Approach Limitations

Limitations

Decisions on wine quality prediction are mostly done scarce and considers small datasets.

* 1991's the "Wine" dataset includes 178 examples with measurements of 13 chemical constituents
* 1997's the "Wine" dataset includes 170 samples from Germany but predict 100% accurately.
* 2001's wine dataset includes only 36 examples were used and 6% error achieved.

Important Contributions

» Contributions

We

- Proposed a data mining approach to predict human wine taste preferences that is based on easily available analytical tests
- Compared to other domain, a large dataset is considered with white and red vinho verde samples from northwest Portugal have increased by 36% from 1997 to 2007

Why Portugal's dataset?

- top ten wine exporting country, with 3.17% of the market share in 2005
- Exports of its vinho verde wine (from the northwest region) have increased by 36

Advantages of this Project

» Advantages of this Project

* Such model is useful to support the oenologist wine tasting evaluations and improve wine production.
* similar techniques can help in target marketing by modeling consumer tastes from niche markets.

» Project Demonestration

Important Files

Actual paper link is given **here**
Dataset Link **here**

Project

Project Github Link is given **here**

Thanks for your attention!
Good Day