

Global Wine Score

One single score, aggregated from critics.

H2020 SOCIETAL CHALLENGES: Food security, sustainable agriculture and forestry, marine and maritime and inland water research, and the Bioeconomy

PRODUCTIVE SECTOR: Agro-digital economy

PROBLEM DESCRIPTION

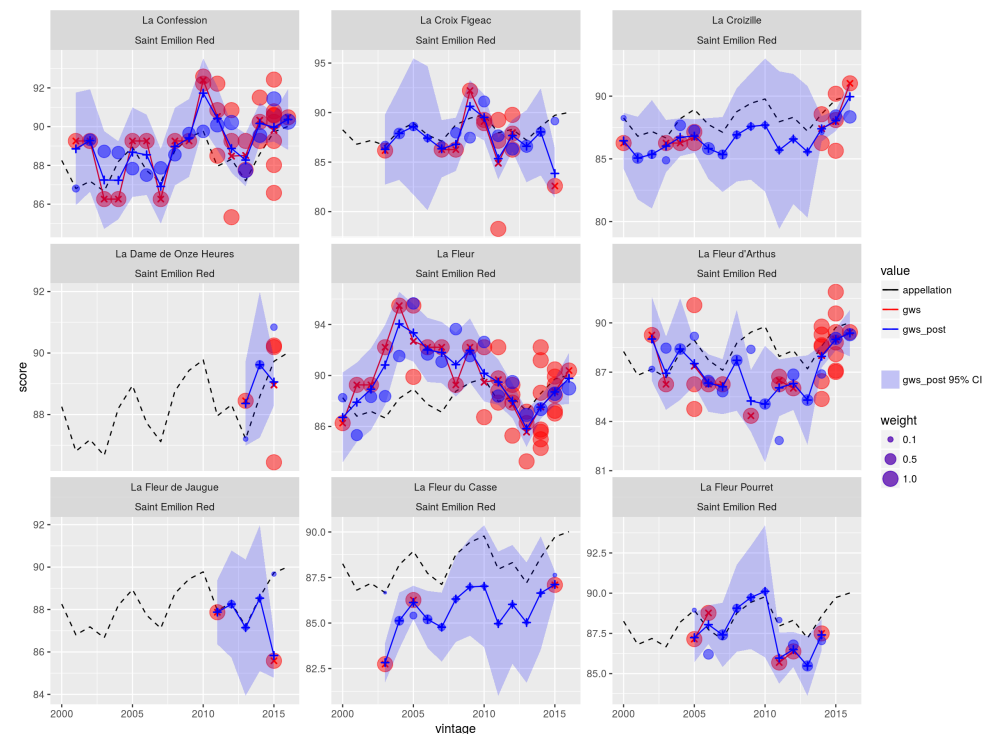
The Global Wine Score aims at making a single rating system for all wines in the world. The project is based on a dataset of more than 1M ratings for more than 100K wines from the 20 most influent wine critics. Scorelab develops an innovative aggregation algorithm aiming at building the most objective score.

CHALLENGES AND GOALS

A lot of wines have been rated very few times and cannot be scored with the current method. Scorelab aims at solving this problem by enriching the score with a predictive model based on past evaluations of the wine on prior vintages as well as similar wines, e.g. from the same appellation.

MATHEMATICAL AND COMPUTATIONAL METHODS

We develop a bayesian hierarchical model allowing to estimate the mean and variance of the score of a vintaged appellation. The hierarchical formulation allows to borrow information from similar appellations thus regularizing the estimation for appellations with very few ratings. The inference is based on MCMC methods. The residual scores of each wine over years are modeled with a multisensor Kalman filter whose transition and measurement parameters are also learned from the data.



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Results and Benefits

Our model allows to obtain a prior distribution for the score of a vintaged wine and its uncertainty, before it receives a single critics rating. The final bayesian score is a weighted average of the observed critics ratings and the prior mean score whose weight is relative to its confidence degree.



A prototype model, allowing to score wines with few critics ratings, with a confidence index.

Assess the quality of all wines in the world with a cutting edge score aggregator. Improve the confidence with advanced probabilistic learning.



The Mathematical Institute of Bordeaux (IMB) is a joint research center (UMR 5251) of CNRS - University of Bordeaux - Bordeaux INP.



Scorelab is a company created in 2016. It offers innovative solutions for different sectors based on data science and machine learning.