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: Agriculture and Fishing

PROBLEM DESCRIPTION

The Global Wine Score aims at making a single rating system for all wines in the world, from a dataset of more than 1M ratings for more than 100K wines from the 20 most influent wine critics.

CHALLENGES AND GOALS

A lot of wines have been rated very few times. To solve this problem, Scorelab aims at 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

Scorelab develops an innovative aggregation algorithm aiming at building the most objective score. A bayesian hierarchical model allowed to estimate the mean and variance of the score of a vintaged appellation. The hierarchical formulation borrow information from similar appellations thus regularizing the estimation for appellations with very few ratings. The inference is based on Monte Carlo Markov Chain 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.
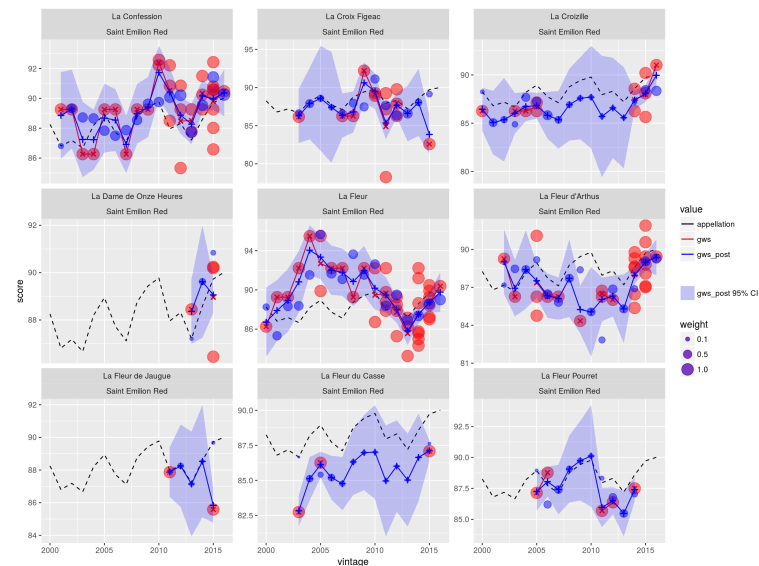
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Results and Benefits

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.** Use advanced probabilistic learning to **Improve** confidence

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