Glass Classification Application

Machine learning - Prediction and Classification

Languages

•Python •Django •HTML •CSS

Model Algorithm

Random Forest

Platforms

•Heroku •GitHub

Objective

This is a Web application to predict and classify types of glass and their applications based on the chemical composition of each one of them.

The variables are highly correlated with each other including the response variables, this is highly skewed data and normally distributed within each feature, scaled and centred around 0 (Standard Scaler).

Fields

- Data Science
- Machine Learning
- Application Software
- Web Servers

Data

1. Title: Glass Identification Database
2. Sources: Central Research Establishment - Home Office Forensic Science Service.
3. - General Results: nearest neighbor held its own with respect to the rule-based system.
4. The study of classification of types of glass was motivated by criminological investigation.
   At the scene of the crime, the glass left can be used as evidence if it is correctly identified.
5. Number of Instances: 214
6. Attribute Information and Summary Statistics:

Refractive Index - RI: 1.5112 1.5339 1.5184 0.0030 -0.1642

Sodium - Na: 10.73 17.38 13.4079 0.8166 0.5030

Magnesium - Mg: 0 4.49 2.6845 1.4424 -0.7447

Aluminum - Al: 0.29 3.5 1.4449 0.4993 0.5988

Silicon - Si: 69.81 75.41 72.6509 0.7745 0.1515

Potassium - K: 0 6.21 0.4971 0.6522 -0.0100

Calcium - Ca: 5.43 16.19 8.9570 1.4232 0.0007

Barium - Ba: 0 3.15 0.1750 0.4972 0.5751

Iron - Fe: 0 0.51 0.0570 0.0974 -0.1879