Service ID S00382

Location Remote, Spain

Data analysis and quality evaluation for agricultural equipment and AI alg

Provider service

University of Cordoba (UCO)

Link to content

https://agrifoodtef.eu/catalogue-of-services/data-analysis-and-quality-evaluation-agricultural-equipment-and-ai-algorithms

Type of Sector

Arable farming, Horticulture, Tree Crops, Viticulture

Accepted type of products

Data

Type of service

Collection of test data, Performance evaluation, Test design

Description

This service provides independent evaluation of agricultural datasets to determine their suitability for use in the testing, development, or validation of AI- and robotics-based systems. The focus is on verifying the quality, structure, and statistical consistency of the data to ensure it meets the requirements for use in intelligent technologies operating in agricultural environments. Our evaluation process includes the application of descriptive statistical techniques to assess data completeness, identify anomalies, and quantify variability across key parameters such as crop yields, irrigation records, and fertilisation schedules. We assess measures of central tendency, dispersion, and distribution to evaluate the stability and reliability of the datasets. This helps identify issues like missing values, outliers, or inconsistencies that could compromise the performance or fairness of automated systems trained or tested on this data. By systematically evaluating data integrity and structure, we help researchers, developers, and integrators ensure their AI algorithms or robotic platforms are tested with datasets that reflect real-world conditions. This contributes to more effective experimentation, better system generalisation, and ultimately, more trustworthy agricultural technologies.

How can the service help you

The service fulfils the need for reliable, high-quality agricultural data in the testing and development of AI and robotics systems. It solves the problem of uncertainty around data integrity by evaluating datasets for completeness, consistency, and statistical soundness. Before using the service, customers risk testing their systems on flawed data; after the service, they have validated datasets that support accurate, trustworthy experimentation and performance assessment. This ensures more reliable results and reduces the risk of deploying systems based on misleading or incomplete data.

How the service will be delivered

The service can be delivered remotely. Customers can customise the evaluation based on data format, target variables, or specific performance concerns. However, the service requires that data be pre-collected, structured and/or non-structured (e.g., in CSV or JSON formats).

Service customisation

Our service is delivered remotely and can be performed year-round. Customers provide their dataset, including crop, irrigation, and fertilisation data. Afterward, customers receive a comprehensive report with descriptive statistics, trend analysis, and outlier detection.