Service ID S00218

Location Poland, Remote

Evaluation of AI solutions for crops, livestock, and food products analysi

Provider service

Lukasiewicz Poznanski Instytut Technologiczny (L-PIT)

Link to content

https://agrifoodtef.eu/catalogue-of-services/evaluation-ai-solutions-crops-livestock-and-food-products-analysis

Type of Sector

Arable farming, Food processing, Greenhouse, Horticulture, Livestock farming, Tree Crops, Viticulture

Accepted type of products

Data, Design / Documentation, Software or AI model

Type of service

AI model training, Data analysis, Performance evaluation, Test design, Test execution, Test setup

Description

The service provides the testing, validation, and training of machine learning algorithms specialised in the detection of weeds, crops, livestock, and food products. The model data for the training implementation can come from different sources. They will come from services run by the Agrifood TEF service network. They may come from the service provider's implementation of other similar services, or they may be provided by the client of the service as collections resulting from their research. In this case, the datasets provided will be validated to assess their quality and suitability for machine training of artificial intelligence algorithms. The envisaged scope of the service, the algorithm training, relates to a wide range of fields and includes farming and plant breeding, animal husbandry, and food processing.

How can the service help you

As part of the service, we conduct an integrated evaluation process of the potential training data provided by the client of the service, including its validation towards an assessment of its quality and suitability for training of artificial intelligence algorithms, as well as an assessment of a given AI solution using the data.

Other sources of learning data will be other services in this area carried out as part of the AgrifoodTEF project, and we do not exclude the use for this purpose of data held by the service provider that it has obtained from other related studies, tests not substantively related to the project. The evaluation of the algorithms will be based on the division of the datasets into appropriate training, validation, and test subsets, thus evaluating the models' generalisation capabilities, and the selection process of the type of machine learning models or algorithms will be guided by the nature of the problem, e.g., classification, regression, and clustering, as well as the characteristics of the data. The scope of the proposed training might include, among others, weed detection, soil and plant breeding, livestock breeding and welfare, and food preparation and processing.

How the service will be delivered

Our service offers the analyses allowing for a comprehensive validation and evaluation of artificial intelligence algorithms provided by the client of the service, including validation of the datasets towards the assessment of their quality and suitability for training of the algorithms. As part of the service, we also envisage the possibility of using data obtained from services carried out as part of the AgrifoodTEF project; we do not exclude the use for this purpose of data held by the service provider that it has obtained from other related studies and tests not substantively related to the project. In order for the service to be properly conducted, the client must grant access to the relevant data and documentation.

All information is treated confidentially, with the option to sign a Non-Disclosure Agreement (NDA). If the tests need to comply with specific industry standards or regulations, kindly inform us in advance. The timeframe and costs are determined individually based on the scope and complexity of the tests. We ensure flexibility and professional support at every stage of the testing process, including both physical and virtual analyses. Please feel free to contact us to discuss the details and tailor the service to your unique needs.

Service customisation

Our service of performing the processes of comprehensive evaluation of the artificial intelligence algorithms, including a validation of the data towards the assessment of its quality and suitability for training of the artificial intelligence algorithms, is based on a structured workflow. The scope of the proposed training will also include the training of models based on customer-supplied data or the service provider's own data. The scope and capabilities of the solutions might include weed detection, soil and plant breeding, livestock breeding and welfare, and food preparation and processing, among others.

The time, duration, and other details of the process can be adjusted according to the characteristics of a problem at hand and specific customer needs. The customer needs to provide the solutions to be tested together with appropriate documentation. The process is flexible and tailored to specific needs, ensuring professionalism and commitment at every stage of our collaboration.