Service ID S00306

Location Remote, Spain

AI model training for computer vision tasks in TEF infrastructure

Provider service

Gradiant Technologies

Link to content

https://www.agrifoodtef.eu/services/ai-model-training-computer-vision-tasks-tef-infrastructure

Type of Sector

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

Accepted type of products

Software or AI model

Type of service

AI model training

Description

The service allows training an AI model to be used for computer vision tasks, like object detection, segmentation, or classification tasks. The training is run on the TEF infrastructure, thus providing a powerful platform for developing cutting-edge artificial intelligence solutions in the agrifood sector. By leveraging high-performance computing resources, CPUs, and GPUs within the TEF infrastructure, this service enables innovators to train AI models using datasets based on images or videos. Users can either provide their own datasets or utilise existing data within the TEF infrastructure (see Related Services). The model training supports various architectures for the computer vision tasks, allowing the selection of the most appropriate one depending on the use case.

How can the service help you

This service enables the improvement of existing computer vision algorithms and provides the computational power to train new model versions at scale. Before using this service, customers may have developed computer vision algorithms but lack the computational capacity to train them effectively on large datasets. After utilising this service, they can overcome these limitations.

How the service will be delivered

As an example, a company may have a computer vision algorithm for crop segmentation and want to add new classes to be identified, or maybe it has acquired a larger dataset to improve the system performance. For that purpose, a new AI model would be trained using TEF infrastructure.The customer must provide an annotated dataset to train the model. In case they have a previous version of the model, the model configuration could also be required.

Service customisation

The required software and hardware infrastructure is already available. In the first instance, customer requirements are captured in an interview between the service provider and the customer. Here, the results of the previous version of the needed algorithm might be reviewed, as well as the provided dataset.

With all this information, an estimation of the execution time could be given. It will depend on the selected architecture, the size of the dataset, and the needed iterations. It can go from approximately one month to several weeks.The service is executed remotely in digital infrastructure located in Vigo (Spain).As a result of the service, the customer will receive documentation about the training process, the AI model itself (in .pth or. .onnx format), and a user manual to know how to use it.The customer must provide the data to train the AI model and, optionally, a model prototype that the customer has already trained. If the customer lacks the data needed, it might be provided through an Agrifood TEF dataset provision service (see Related Services).