Expand training datasets by using synthetic data based on existing datas

Provider service

Research Institutes of Sweden (RISE)

Link to content

https://www.agrifoodtef.eu/services/expand-training-datasets-using-synthetic-data-based-existing-datasets

Type of Sector

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

Accepted type of products

Data, Other

Type of service

Data augmentation, Provision of datasets

Description

This service can, together with the company, expand training datasets with synthetic data. If required or appropriate, methodology and expanded data sets will also be a part of the service. By deploying synthetic data, companies can overcome some of the limitations of their existing datasets, leading to improved model performance, reduced costs, and enhanced operational efficiency. The service empowers businesses to innovate and adapt in an increasingly competitive landscape.

How can the service help you

The service "Expand Training Datasets by Using Synthetic Data Based on Existing Datasets (S00030)" addresses challenges relating to limited data availability, data management complexity, and operational inefficiencies, enabling organisations to enhance their machine learning models and achieve better outcomes.

Before the service: As an illustration, a company has a limited dataset of their robot operating in a factory setting.

The dataset captures only a restricted and narrow range of conditions, such as lighting or object placement. As a result, the robot's performance is suboptimal, with a high error rate during testing.

After the service: The company receives a detailed assessment and customised recommendations for how to best supplement existing datasets. For example, the company expands its dataset to include synthetic images generated from the original dataset. These images simulate various lighting conditions, object placements, and even unexpected obstacles.

How the service will be delivered

The service can be adapted to specific customer needs.

The assessment journey starts with a joint meeting where the customer discusses different alternatives with a technical team from agrifoodTEF, supplemented with domain experts from RISE or Asta Zero and members from the internal customer support team.

A roadmap for the service is established, and the service can commence.

Service customisation

Logistics: The AgrifoodTEF project offers the following facilities and support for the company:

Access to Diverse Data Environments: Utilize various simulated conditions for testing your models, including different scenarios reflecting real-world applications.

Data Preparation Support: Assistance in preparing and managing existing datasets to ensure readiness for synthetic data integration.

Expert Guidance: Personnel are available to support your experimentation and help you navigate the complexities of data generation.

Delivery Period: The service is available throughout the year, ensuring access support when required.Duration: Service execution can span several weeks and is dependent on the complexity of the task.

Location: The service is executed at RISE, Sweden, but can be provided remotely.Customer Requirements:The company must provide access to relevant data or resources needed for the tests.

The company's personnel will be responsible for following all instructions provided by RISE.A document titled "Service description" must describe the details of service setup in collaboration with the RISE customer team, experts, and the client. It must be approved before starting the service.