General Purpose Datasets with User Specified Sensor(s)

We utilize ground and aerial robots to gather general-purpose data and create both raw and post-processed datasets tailored to customer needs in agricultural applications with user specified sensor(s). These datasets are essential for the development and evaluation of AI & Robotics algorithms encompassing, but not limited to, weed detection, crop health assessment, growth and maturity monitoring, feeding decision support systems (DSS), and navigation. Our services cater to various agricultural sectors, including arable farming, horticulture, food processing, viticulture, and arboriculture.

Our Services

Data Acquisition

Sensors Data Sources

- User or Client can specify one or multiple sensors for data acquisition to cater his needs.
  - User can specify Image Sensor(s)
  - User can specify LiDAR Sensor(s)
  - User can specify Multispectral Camera Sensor(s)
  - User can specify other sensor(s) for data acquisition

Environment Mapping

- **RTK-GPS** to capture GPS coordinates for accurate spatial mapping of fields, assets, and environmental features.
- **IMU sensor** for precise drone positioning and orientation, ensuring stable flight and accurate data capture in varying environmental conditions.

Data Augmentation

Georeferencing

Precision from Centimeter Level, Precise Positioning, Spatial Alignment, Enhanced Reliability

Data Processing

- **Data Synchronization**

Consistent Timestamps, Precise Timing, Data Logging, Quality Assurance

- **Data Cleaning**

Noise Removal, Outlier Removal

- **Data Interpolation/Extrapolation**

Fixing Missing Data, Estimating New Data

- **Data Merging/Fusion**

Combining bands from multispectral camera

Data Annotation

Labeling, Semantization

+33 4 97 15 53 49

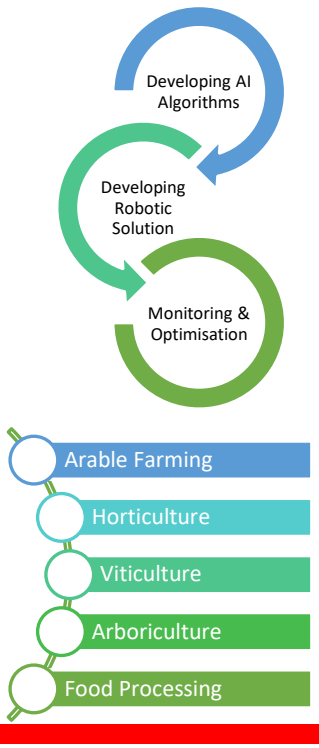
agrifoodtef@inria.fr

project.inria.fr/agrifoodtef

2004 rte des Lucioles,
06902 Valbonne

Potential Usage and Application in AI and Robotics

Usage: For What?



Application Areas

Feeding Decision Support Systems (DSS) for various application

MicroServices List

- Definition of Dataset Structure
- Implementation of Dataset Structure
- Sensor Integration and Calibration
- Logistics for Data Acquisition
- Data Acquisition Execution
- Data Validation
- Data Augmentation
- Data Anonymization
- Specific Tools for Data Visualization and Exploitation
- Reporting

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