

Agricultural datasets available at UOL and beyond

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Goals:

- ▶ Share some public available agricultural datasets
- ▶ Discuss what we need and share some datasets we have discovered recently

- Associate (Robotic Perception)
- Post Doctoral Research
- Associate (Robotic Vision)

COLLABORATE IN CODE WITH US

**GitHub**
LCAS (Lincoln Centre for Autonomous Systems Research)

**Lincoln Centre for Autonomous Systems Research**
LCAS

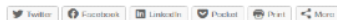
Lincoln, UK
<https://lcas.lincoln.ac.uk/wp/>
Joined on Jul 02, 2013

128 Public Repositories ▾
0 Public Gists

Datasets

- 3D Social Activity Datasets – Datasets for the Recognition of the Human Social Activities using RGB-D and skeleton data.
- L-CAS 3D Point Cloud Dataset for People Detection, from H2020 project FLOBOT
- L-CAS Multisensor People Dataset, from H2020 project FLOBOT
- RGBD datasets of broccoli in the field collected in UK and Spain.
- L-CAS RGB-D-T Re-identification Dataset, from H2020 project ENRICHME
- L-CAS Thermal Physiological Monitoring Dataset, from H2020 project ENRICHME
- L-CAS domestic sensors Dataset, from H2020 project ENRICHME
- L-CAS Datasets for Long-Term Autonomy of Mobile Robots, from FP7 project STRANDS
- RGBD crops versus weeds discrimination dataset, collected in the fields of Lincolnshire
- Outdoor Action/Intention Recognition Dataset, from the RASberry project
- Soil aggregate size distribution dataset, for estimating soil structure
- UoL Corridor long-term pedestrian dataset, from H2020 project ILIAD
- UoL Office long-term pedestrian dataset, from H2020 project ILIAD

Share this:



<https://lcas.lincoln.ac.uk/wp/research/data-sets-software/>

Object detection in agriculture:

Datasets	Data	For
ISAR ¹	Olive and Almonds	Object detection
ACFR ²	Mangoes, Apples, and Almonds	Object detection
Global Wheat Detection ³	Wheat	Object detection
WGSID ⁴	Grape clusters	Object detection
Sorghum-head ⁵	Sorghum heads	Object detection



Detection dataset samples

¹<https://github.com/isarlab-department-engineering/WS-COUNT>

²<http://data.acfr.usyd.edu.au/ag/treecrops/2016-multifruit/>

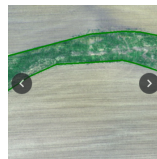
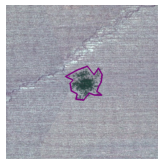
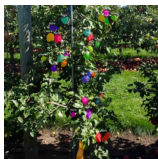
³<http://www.global-wheat.com/2020-challenge/>

⁴<https://github.com/thsant/wgisd/tree/1.0.0>

⁵<https://github.com/oceam/DeepSorghumHead>

Object segmentation in agriculture:

Datasets	Data	For
Multi-species fruit flower segmentation ⁶	Apple, peach, and pear flower	Object segmentation
MinneApple ⁷	Apples	Object segmentation
Crop/Weed Field Image Dataset (CWFID) ⁸	crop/weed	Object segmentation
Agriculture-Vision ⁹	Aerial Images of pattern in agricultural lands	Object segmentation



Segmentation dataset samples

⁶<https://data.nal.usda.gov/dataset/data-multi-species-fruit-flower-detection-using-refined-semantic-segmentation-network>

⁷<https://github.com/nicolaihaeni/MinneApple>

⁸<https://github.com/cwfid/dataset>

⁹<https://www.agriculture-vision.com/dataset>

Anomaly detection in agriculture:

Datasets	Data	For
Citrus Diseases ¹⁰	Citrus Diseases diseases on leaves	Anomaly detection
PlantVillage dataset ¹¹	Plant leaves with diseases/pest (apples, blueberries, cherry, corn, grape, orange, peach, pepper...)	Anomaly detection



Anomaly dataset samples

¹⁰<https://data.mendeley.com/datasets/3f83gxm57/2>

¹¹<https://github.com/spMohanty/PlantVillage-Dataset>

Computer vision and bio-systems signal processing group website at Aarhus University

→ <https://vision.eng.au.dk/>

Dataset	Description	for
FieldSAFE	Stereo camera, thermal camera, web camera, 360-degree camera, lidar, and radar data of autonomous vehicle runs	Obstacle Detection in Agriculture for autonomous systems
Open Plant Phenotyping Database (OPPD)	Images: 315,038 plant objects, 64,292 individual plants 47 different species	Plant instance detection and plant species classification
Plant Seedlings Dataset	Images of plants at different growth stages	Segmentation and recognition of weed
CloudCast	Satellite images of cloud types for multiple layer of the atmosphere	Weather forecasting forecasting clouds
Leaf counting dataset	Images of weeds with the number of leaves counted.	Counting
GrassClover dataset	Images contain dense populations of grass and clover mixtures with weed occurrences	Semantic segmentation and prediction of the biomass compositions
UAV LIDAR mapping for crop fields	Aerial point-clouds, RGB of crop parcels	Volume and textural analysis

- ▶ What do you need?
- ▶ Ideas, suggestions for common spaces to share datasets we find

THANK YOU