

# Open eVision Deep Learning Studio

Deep Learning training and evaluation application



## At a Glance

- Ease the evaluation of Open eVision's Deep Learning tools
- Dataset creation and image annotation for classification, segmentation, and object localization
- Create and configure dataset splits to decide how your images are used
- Manage the data augmentation transformations
- Train your tools in succession thanks to the training queue
- Validation and analysis of the results of the trained tools
- Available on Windows and Linux
- Free of charge

#### **Benefits**

# New in Open eVision 24.02

EasyFind: Significant speed increase, without any loss of accuracy.

Easylmage

- New Gabor filtering function to help with texture analysis and edge detection.
- New inverse circle warp function, providing conversion between polar and cartesian coordinates.

Easy: Improved off-screen rendering on all platforms.

Admin: Simplified version upgrade procedure with version numbers removed from filenames.

# **Open eVision Deep Learning Studio**

Open eVision Deep Learning Studio is an application that assists the user during the creation of the dataset as well as the training and testing of the Deep Learning tools of Open eVision.

Open eVision Deep Learning Studio is free and does not require any license. It allows you to test the Deep Learning libraries using your own images. No programming is required.

Just click on DOWNLOAD OPEN EVISION DEEP LEARNING STUDIO and install Open eVision. Sample images, manuals and example programs are included.

# **Deep Learning projects**

A Deep Learning Studio project manages your dataset and the Deep Learning tools you created. A project is associated with one the Deep Learning tool (EasyClassify, EasySegment Unsupervised, EasySegment Supervised or EasyLocate) and supports all their features.

Within a project, you can create as many tools as you want. It allows you to easily experiment with the parameters of the tools, different split of the dataset, or data augmentation settings.

# New in Open eVision 23.12

Import of standard datasets into Deep Learning Studio

- Import of COCO Json dataset for EasyLocate or EasySegment Supervised
- Import of YOLO TXT annotations for EasyLocate
- Import of Pascal VOC XML annotations for EasyLocate

EasySpotDetector (Beta release, contact us for more information)

- A single API and license for the alignment of region of interest, surface defect detection (particles, scratches,...) and classification with a custom trained Deep Learning classifier.
- · Realtime processing for inline surface inspection

# Control how your images are used

Deep Learning Studio allows you to split your dataset into training, validation, and test sets. You can create multiple dataset splits to experiment and check the performance of tools trained with different set of images.

You can create dataset splits at random or manually select the set of each image.

# **Data augmentation**

The rich data augmentation capabilities of EasyClassify, EasySegment, and EasyLocate are available in Deep Learning Studio. Tune and visualize the geometric, color, and noise data augmentations. You can create different set of data augmentation settings to experiment how it influence your results.

# Configure and train your tools

The Tools tab allows you to configure and train your tools. Operating on CPU or GPU, the training can be stopped and restarted at any time. You can launch as many training as you want thanks to the processing queue. The training and inference operations will be queued and processed one after the other.

## Validation and result analysis

The validation process is customized for each library to allow you to get the most out of your data. A comprehensive set of metrics, tables, and/or graphs is available to analyze and explore the results of the training process.

Tables and confusion matrixes allow you to filter your results to understand the strengths and weaknesses of the trained models. Score histograms and ROI curves are useful to select a threshold and adapt the trained models to your needs.

# Annotate your dataset

Deep Learning Studio integrates annotation tools adapted to each library. For classification and unsupervised segmentation, you can quickly assign label to each image. For supervised segmentation, the segmentation editor allows you to draw the ground truth segmentation. For localisation, the object editor allows you to quickly draw the bounding box around each of your objects.

The image editor also allows you to select a region of interest and mask parts of your image.

# **New Assisted Segmentation Tool**

• Assisted segmentation tool to ease and speed up annotation.

# **Specifications**

# Software

Solitivale	
Host PC Operating System	Microsoft Windows 11, 10, 8.1, 7 for x86-64 (64-bit) processor architecture
	<ul> <li>Microsoft Windows 10, 8.1, 7 for x86 (32-bit) processor architecture</li> </ul>
	• Linux for x86-64 (64-bit) processor architectures
	Minimum requirements:
	- 8 GB RAM
	- 400 MB free hard disk space
Ordering Information	
Product code - Description	4912 - Open eVision Deep Learning Studio



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