Annotate
powered by
Aphelion

HIGHLY CONFIGURABLE SOFTWARE
FOR QUICK AND EFFICIENT ANNOTATION
OF IMAGE AND VIDEO DATA

Deep Learning (DL) techniques for Image Analysis have been shown to be highly effective across a broad range of applications including inspections, health screenings, image indexing, medical imaging, security, and surveillance.

DL solution for a given task are developed in 5 steps:

1) Collection and selection of representative data.

2) Manual annotation of the training data to associate the known state or properties to each element.

3) Selection of the most suitable DL network architecture for solving the problem and returning the states or properties of the elements (image or object classes, object bounding boxes, etc.) in the data to be studied.

4) Training of the network using the annotated data to adjust its weights until the computed outputs are as close as possible to the ground truth.

5) Evaluation of the model using a subset of the database not used for the training.

These DL techniques could not have been developed without a large training database, necessary for achieving state-of-the-art results.

In the first step, the data collection can generally be highly automated. However, the second step, annotation, is the most time-consuming because it involves a lot of manual interactions and checking to insure the quality of the annotated data which directly impacts the efficiency of the trained network.

ADCIS has developed a software package:

- To annotate image sets and videos.

- To generate data properly formatted for the training and evaluation of DL network and for a variety of applications.

- With an easy-to-use and highly customizable graphical user interface.
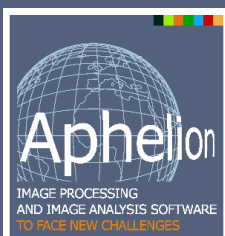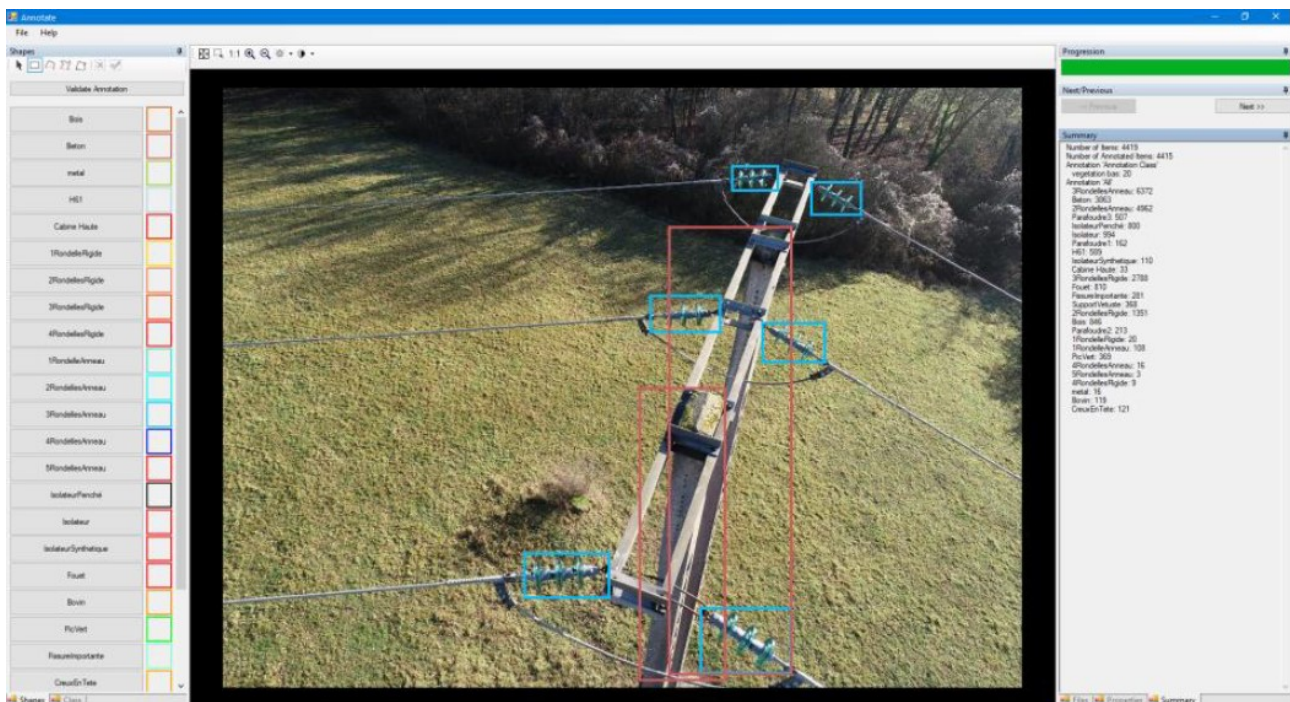

Key benefits of Annotate software:

- Adapted to a wide range of applications thanks to its in-depth settings

- Able to handle both image and video data

- Highly configurable GUI helps to reduce time spent on annotations

- Output selection suited to a variety of different network (image classification, detection/identification, image segmentation, etc.)

Aphelion

IMAGE PROCESSING
AND IMAGE ANALYSIS SOFTWARE
TO FACE NEW CHALLENGES

Annotate images and videos

The graphical user interface is the key to speeding up the annotation by reducing mouse clicks, having the proper drawing tool to outline the objects, providing shortcuts to select the annotations to perform, etc.
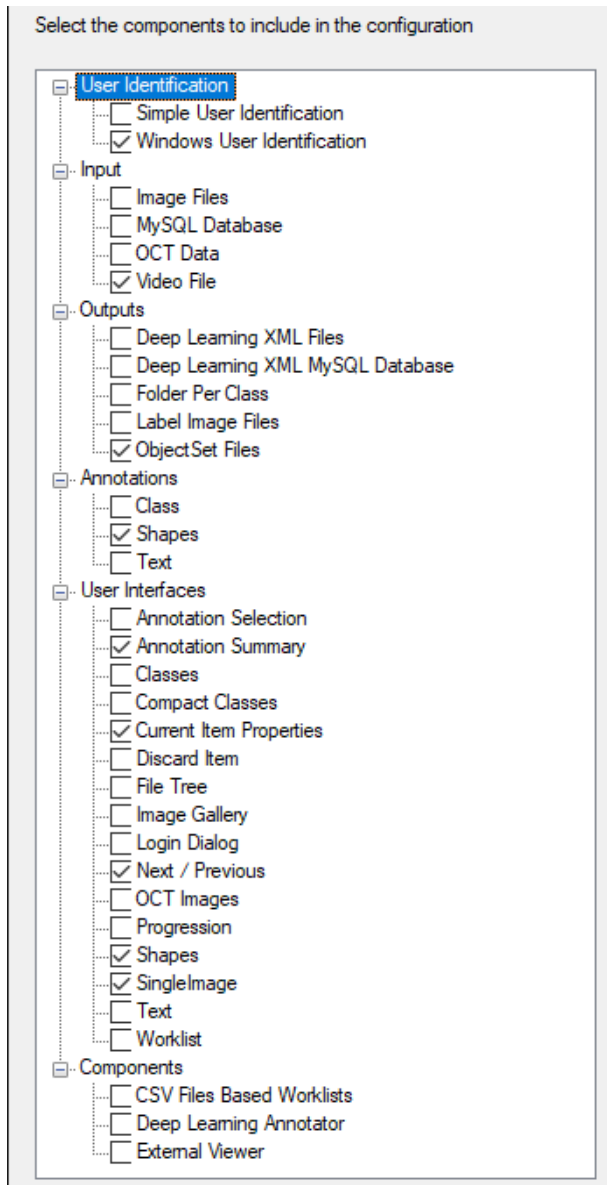

When configured, Annotate becomes a software package customized for your application and for your user to perform annotation under the best conditions providing:

- Selection of the image or video frame to annotate (previous/next, file tree, or image gallery)

- Buttons and shortcuts to select the class and/or the tool to outline object

- Display of the Information about the progress of the annotation. Display metadata of images.

- Use of Work Lists (an important tool for multi-user annotation)

In addition, Annotate can pre-annotate images by applying a DL network already generated. The user only needs to check the annotations and edit them if required. It speeds up the annotation process.
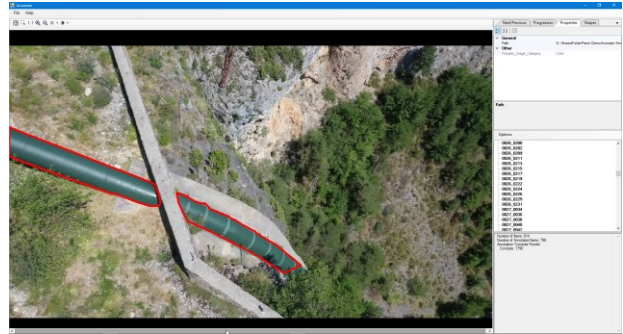
The training database is built up through the annotation process. The progress information tells the user when all the images and video frames are annotated, or when the numbers of items per class reach the expected values.

And afterwards…

Model generation

The steps following the building of the training database are aimed at generating the model. These steps require the most skills. While this can be a very difficult process, ADCIS is expert in Deep Learning and can provide model generation as a package service.

Integration and Deployment

Aphelion Imaging Software Suite includes extensive sets of components for developing custom imaging applications including Deep Learning processing functions to process images or videos for automatically classify images, detect and identify objects, or segment images, depending on the model.

When developed, the software application can be deployed.

Maintenance service

Maintenance services are available from ADCIS for all its software products and custom engineering works.

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