

Software Training Kit for object detection

WHAT IS logiSTK

logiSTK is a software tool for training and testing object detectors based on HOG/SVM classifiers. It is designed to support users in all the training process stages, in a simple and effective way.

With logiSTK anyone can undertake the task of object classification, not only machine learning experts.

KEY FEATURES

MEDIA ANNOTATION

Manual and automatic annotation of the objects of interest in your media collection to create your training set and ground truth data

TRAINING

Guided procedure for training
Fine tuning of training parameters

REGIONS OF INTEREST

Search regions definition, manually or from camera calibration data

PERFORMANCE ANALYSIS

Test of the trained classifier on selected media
Comparison of results with ground truth data and accuracy estimation

EXPORT FOR logiHOG

Export of the object classifier to logiHOG
FPGA IP core

The screenshot displays the logiSTK software interface. The main window shows a video player with a blue bounding box around a person in a video frame. The interface includes a menu bar (File, Tools, Help), a toolbar with icons for New project, Open project..., Save, Save As..., Annotation, Classification, ROI, and Help. A file explorer on the left shows folders like 'negatives_folder' and 'boots_folder', and files like 'moto_01.avi', 'moto_02.avi', 'moto_03.avi', and 'moto_test.avi'. A 'Performs tool' window is open in the foreground, displaying 'Performances results' with a bar chart and a table of statistics.

Property	Value
Precision	100 %
Recall	96.92 %
F1 score	98.43 %
True positives	252
False positives	0
False negatives	8



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SOFTWARE FEATURES

Supported OS	Windows 7, 8, 8.1, 10
Supported video formats	.dv, .avi, .mov, .wmv, .mpeg2, .mp4
Supported image formats	.jpg, .jpeg, .bmp, .png, .tiff, .ppm, .pgm
Annotation layers	A layer is a collection of boxes referred to a specific object of interest, which can be imported/exported from XML files
Automatic annotation tool	Select boxes in a few frames and then automatically generate the boxes in the frames in between
Classifier	Based on HOG descriptor and linear SVM
HOG configuration	Set all HOG parameters according to the object classification task
Guided training	Classification based on a training set of annotated media for positive and negative images
ROIs estimation	Created manually, specifying minimum/maximum scale and density, or automatically starting from camera parameters.
Multiple scales support	Detection can run on multiple scales
Performance estimators	Precision, Recall, F1-score, True Positives, False Positives, False Negatives
Export for logiHOG	Trained classifiers can be exported for logiHOG FPGA IP core
Trial version	A 15 days trial version for Windows is available free of charge

APPLICATIONS

Automotive driving assistance
 Video surveillance
 Robot navigation
 Biomedical imaging
 Machine vision

logiSTK AND logiADAK

logiSTK is the ideal tool to create object classifiers to be tested on logiADAK (Automotive Driver Assistance Kit) for ADAS applications



LogicBRICKS™

Designed by XYLON

ORDERING INFORMATION

To request a quote, a trial version or place an order:
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eVS CONTACTS

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