Glossary of Acronyms and Abbreviations

1-D	one dimension/one-dimensional
2-D	two dimensions/two-dimensional
3-D	three dimensions/three-dimensional
AAM	active appearance model
ACM	Association for Computing Machinery (USA)
ADAS	advanced driver assistance system
AFW	annotated faces in the wild
AI	artificial intelligence
ANN	artificial neural network
AP	average precision
APF	auxiliary particle filter
ASCII	American Standard Code for Information Interchange
ASIC	application specific integrated circuit
ASM	active shape model
ATM	automated teller machine
AUC	area under curve
AVI	audio video interleave
BCVM	between-class variance method
BDRF	bidirectional reflectance distribution function
BetaSAC	beta [distribution] sampling consensus
BMVA	British Machine Vision Association
BPTT	backpropagation through time
CAD	computer-aided design
CAM	computer-aided manufacture
CCTV	closed-circuit television
CDF	cumulative distribution function
CLIP	cellular logic image processor
CNN	convolutional neural network
CPU	central processor unit
CRF	conditional random field
DCSM	distinct class based splitting measure
DET	Beaudet determinant operator
DG	differential gradient
DN	Dreschler–Nagel corner detector
DNN	deconvolution network
DoF	degree of freedom
DoG	difference of Gaussians
DPM	deformable parts models
EM	expectation maximization
EURASIP	European Association for Signal Processing
f.c.	fully connected
FAR	frontalization for alignment and recognition

FAST	features from accelerated segment test
FCN	fully convolutional network
FDDB	face detection data set and benchmark
FDR	face detection and recognition
FFT	fast Fourier transform
FN	false negative
fnr	false negative rate
FoE	focus of expansion
FoV	field of view
FP	false positive
FPGA	field programmable gate array
FPP	full perspective projection
fpr	false positive rate
GHT	generalized Hough transform
GLOH	gradient location and orientation histogram
GMM	Gaussian mixture model
GPS	global positioning system
GPU	graphics processing unit
GroupSAC	group sampling consensus
GVM	global valley method
HOG	histogram of orientated gradients
HSI	hue, saturation, intensity
HT	Hough transform
IBR	intensity extrema-based region detector
IDD	integrated directional derivative
IEE	Institution of Electrical Engineers (UK)
IEEE	Institute of Electrical and Electronics Engineers (USA)
IET	Institution of Engineering and Technology (UK)
ILSVRC	ImageNet large-scale visual recognition object challenge
ILW	iterated likelihood weighting
IMPSAC	importance sampling consensus
IoP	Institute of Physics (UK)
IRLFOD	image-restricted, label-free outside data
ISODATA	iterative self-organizing data analysis
JPEG/JPG	Joint Photographic Experts Group
***k*-NN**	*k*-nearest neighbor
KL	Kullback–Leibler
KR	Kitchen–Rosenfeld corner detector
LED	light emitting diode
LFF	local-feature-focus method
LFPW	labeled face parts in the wild
LFW	labeled faces in the wild
LIDAR	light detection and ranging
LMedS	least median of squares
LoG	Laplacian of Gaussian
LRN	local response normalization
LS	least squares
LSTM	long short-term memory

LUT	lookup table
MAP	maximum a posteriori
MDL	minimum description length
ML	machine learning
MLP	multi-layer perceptron
MoG	mixture of Gaussians
MP	microprocessor
MSER	maximally stable extremal region
NAPSAC	*n* adjacent points sample consensus
NIR	near infra-red
NN	nearest neighbor
OCR	optical character recognition
OVR	one versus the rest
PASCAL	Network of Excellence on pattern analysis, statistical modeling and computational learning
PC	personal computer
PCA	principal components analysis
PE	processing element
P*n*P	perspective *n*-point
PPR	probabilistic pattern recognition
PR	pattern recognition
PROSAC	progressive sample consensus
PSF	point spread function
R-CNN	regions with CNN features
RAM	random access memory
RANSAC	random sample consensus
RBF	radial basis function [classifier]
RELU	rectified linear unit
RGB	red, green, blue
RHT	randomized Hough transform
RKHS	reproducible kernel Hilbert space
RMS	root mean square
RNN	recurrent neural network
ROC	receiver–operator characteristic
RoI	region of interest
RPS	Royal Photographic Society (UK)
s.d.	standard deviation
SFC	Facebook social face classification
SFOP	scale-invariant feature operator
SIFT	scale invariant feature transform
SIMD	single instruction stream, multiple data stream
Sir	sampling importance resampling
SIS	sequential importance sampling
SISD	single instruction stream, single data stream
SOC	sorting optimization curve
SOM	self-organizing map
SPIE	Society of Photo-optical Instrumentation Engineers
SPR	statistical pattern recognition

STA	spatiotemporal attention [neural network]
SURF	speeded-up robust features
SUSAN	smallest univalue segment assimilating nucleus
SVM	support vector machine
TM	template matching
TMF	truncated median filter
TN	true negative
tnr	true negative rate
TP	true positive
tpr	true positive rate
TV	television
USEF	unit step edge function
VGG	Visual Geometry Group (Oxford)
VJ	Viola–Jones
VLSI	very large scale integration
VMF	vector median filter
VOC	visual object classes
VP	vanishing point
WPP	weak perspective projection
YOLO	you only look once
YTF	YouTube faces
ZH	Zuniga–Haralick corner detector