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List of Abbreviations

ANN	Artificial Neural Network(s)
CCTV	Closed-circuit Television
FT	Fourier Transform
HDR	High dynamic range
HOG	Histogram of Oriented Gradient
IFT	Inverse Fourier Transform
MCS	Monte Carlo simulation
MLF	Multi-layer feed-forward
MSER	Maximally stable external regions
OCR	Optical Character Recognition
PCA	Principal Component Analysis
RT	Radon Transform
SIFT	Scale-Invariant Feature Transform
STFT	Short Time Fourier Transform
SVM	Support Vector Machine
VC	Vector Contour
VE	Vector Element
VNPR	Vehicle Number Plate Recognition (System)
WT	Wavelet Transform

List of Symbols

$f(x, y) \tilde{*}_m[x, y]$	A periodical convolution of the function f with m
v_m	maximum value of the projection
$P(X)$	Joint probability
$K(x_i, x_j)$	kernel function
ω	frequency
$X(\omega)$	fourier transform of X_i
$STFTx(t)$	Short Time FT of signal $x(t)$
σ_t^2	temporal variance (of wave function)
σ_ω^2	frequency variance (of wave function)
$\ f\ $	norm of the function f
$Wx(u, s)$	Wavelet transform of function x
$p(\phi, \xi)$	Radon transform of p
A_{GL}	RGB colored image
A_R	Red spectrum of the color image
A_G	Green spectrum of the color image
A_B	Blue spectrum of the color image
\hat{X}	Estimated value of X
ϵ_k	Euclidean distance
$f_{ST}(x, t)$	spatiotemporally-filtered distance at x and time step t
$\mathcal{R}\{\mathcal{G}[g]\}(b, \hat{\xi})$	RT of the line segment indicator function of segment g
$\mathcal{R}\{\mathcal{B}[s]\}(b, \hat{\xi})$	RT of the strip indicator function of strip s
$\mathcal{R}\{\mathcal{P}[s]\}(b, \hat{\xi})$	RT of the pixel indicator function of pixel p_0