

# 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
$\omega$	frequency
$X(\omega)$	fourier transform of $X_i$
$STFTx(t)$	Short Time FT of signal $x(t)$
$\sigma_t^2$	temporal variance (of wave function)
$\sigma_\omega^2$	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 $X$
$\epsilon_k$	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 $s$
$\mathcal{R}\{\mathcal{P}[p]\}(b, \hat{\xi})$	RT of the pixel indicator function of pixel $p_0$