AVs	Action volumes
BMC	Background Models Challenge
CRR	Correct recognition rate
CLG	Combined local–global
DCxWT	Daubechies Complex Wavelet Transform
DT-CWT	Dual Tree Complex Wavelet Transform
DBMSS	Dynamic background modelling and shadow suppression
DFT	Discrete Fourier Transform
DWT	Discrete Wavelet Transform
ETR	Edge test regions
GMM	Gaussian Mixture Models
HSV	Hue, saturation and value
HMM	Hidden Markov Model
HL	High-Low sub-band
HH	High-High sub-band
HMC	Harmonic Motion Context
LDWT	Lifting-based 9/7 discrete wavelet transform
LL	Low-Low sub-band
LH	Low-High sub-band
LBP	Local binary patterns
MDLDWT	Modified directional lifting-based 9 /7 discrete wavelet transform
MEI	Motion energy image
MHI	Motion history image
MHV	Motion history Volumes
MRA	Multiresolution analysis
MP	Misclassification Penalty
NAE	Normalized Absolute Error
NCC	Normalized Cross Correlation
RFAM	Relative Foreground Area Measure
RPM	Relative Position Based Measure
RPCA	Robust Principal Component Analysis

RE	Recall
PDF	Probability density function
PCM	Pixel Classification Based Measure
PSNR	Peak Signal-to-Noise Ratio
PCP	Principal Component Pursuit
PR	Precision
SVM	Support vector machine
SDW	Symmetric complex Daubechies wavelets
SDR	Shadow detection rate
SbLM	Sparsity-based Learning Machine
TMHI	Time motion history image
3D-MC	3D Motion Context

$\phi(u)$	Scaling function
$\psi_{j,k}^{i}(t)$	Wavelet bases
C_{k}^{jo}	Approximation coefficient
d_{k}^{j}	Detail coefficient
$E(i)$	Euler number
q_{d}	Quads
$WD_{n,d}(i,j)$	Frame difference
$V_{th,d}$	Threshold
$BD_{n,LL}(i,j)$	Background difference mask
T	Soft thresholding
ψ	Standard deviation
ξ	Absolute mean
ω	Absolute median
E_{n}	Moving object edges
$M(E_{n})$	Connected edge
$Area(I_{GTV})$	Ground –truth frame
$Area(I_{SEGM})$	Segmented frame
$Chem_{GTV}$	Chamfer distance
$I_{GTV}(i,j)$	Ground –truth frame
$I_{SEGM}(i,j)$	Segmented frame
$\cap$	Logical AND operation
$Cardi(.)$	Cardinality operator
$Cent_{GTV}$	Centroid of objects in ground-truth frame
$Cent_{SEGM}$	Centroid of objects in segmented frame
$Area_{GTV}$	Area of object in ground-truth frame
$\|.\|$	Euclidean distance
Φ_{k}	Mean

Δ_k	Median
$\xi_k{}^2$	Variance
Θ_k	Weight in the K-Gaussian mixture
α	Learning rate
$\delta(i,j)$	Mode of K-Gaussian
$\left(\dfrac{\xi}{\Delta}\right)\left\|WD_{n,LL3}{}^{(i,j)}\right\|_{\Delta E}$	Relative deviation
η	Additive noise
$S_n(i,j)$	Stationary index
$\mu_n(i,j)$	Background buffer value
χ	Predefined constant
$Th(\alpha,\beta)$	Threshold
$WD_{\eta_H}^{L}(\alpha,\beta)$	High frequency coefficients in horizontal
$WD_{\eta_V}^{L}(\alpha,\beta)$	High frequency coefficients in vertical directions
$WD_{\eta_D}^{L}(\alpha,\beta)$	High frequency coefficients in diagonal directions
mH	Number of pixels along the horizontal directions
nH	Number of pixels along the horizontal directions
mV	Number of pixels along the vertical directions
nV	Number of pixels along the vertical directions
mD	Number of pixels along the diagonal directions
nD	Number of pixels along the diagonal directions
$H_\tau(u,v,t)$	Motion history template image
V	Sequence of frames
τ_{min}	Minimum durations
τ_{max}	Maximum durations
$H_{\tau-\Delta\tau}$	MHI values
$F_x(x,y)$	Derivatives in x directions
$F_y(x,y)$	Derivatives in y directions
$\phi(x,y)$	Gradient orientation
p	Moment feature