

List of Symbols

Symbol	Description
x_i	i^{th} symbol in the data source
$P(x_i)$	Probability of occurrence of i^{th} symbol in the data source
d_i	Difference between two consecutive symbols in the data source
N	Length of data sequence
(x, y)	Position of the candidate block
$M \times N$	Size of the candidate block
(m_x, m_y)	Motion vector of the candidate block
p	Search displacement parameter
n	Number of intermediate search steps
T	Pre-set threshold value for SAD
(x_m, y_m)	Median of MVs of adjacent blocks
(p_x, p_y)	Maximum fixed SR dimension in horizontal and vertical directions
(p_x^d, p_y^d)	Maximum adaptive displacement in horizontal and vertical directions
R_0	SR corresponding to SR center $(0, 0)$
R_m	SR corresponding to SR center (x_m, y_m)
$(\Delta x_i, \Delta y_i)$	Coordinate difference of IMVs of the $(i - 1)^{th}$ and $(i - 2)^{th}$ search steps
β	Pixel sub-sampling parameter
φ	A ratio of SADs obtained with sub-sampling and without sub-sampling
$T_{1:\beta}^{new}$	New threshold value where $1 : \beta$ is the sub-sampling
$P_i(MV)$	The probability distribution of MV
$ANCPB_{1:\beta}$	ANCPB for $1 : \beta$ sub-sampled SAD
$ANCPB_{FS}$	ANCPB for FS algorithm
$ANCPB_{fast_algorithm}$	ANCPB for fast block matching algorithm
V_{max}	Maximum pixel intensity for the given bit resolution
α	The proportion of pixels used in the sub-sampled SAD computation
$pfbg$	Background region in the previous frame
n_{pfbg}	Total number of BG blocks in the previous frame
\overline{SAD}_{pfbg}	Adaptive threshold based on SADs for background region in the previous frame
S	Class number (0: BG, 1: BD, 2: FG)
ω_s	Weight corresponding to class S
$ C_s $	Total number of blocks belonging to class S
$MSE(m, n)$	Mean-squared-error of $(m, n)^{th}$ candidate block
$j_i = (x_i, y_i)$	The horizontal and vertical coordinates of the body joint j_i
N_J	Total number of body joints
O_i	Occlusion information for the body joint j_i
SID_s^t	Skeleton ID of the s^{th} skeleton in the t^{th} frame
O_s^t	Occlusion information of the s^{th} skeleton in the t^{th} frame
$O_{s,i}^t$	Occlusion flag corresponding to the i^{th} body joint of the s^{th} skeleton in the t^{th} frame
J_s^t	body joint coordinate information of the s^{th} skeleton in the t^{th} frame
N_S^t	Number of skeletons present in the t^{th} frame

Symbol	Description
F^t	Complete skeleton information in the t^{th} frame
j_i^p	Parent body joint for the body joint j_i
$w_{j_i^p}$	Weight corresponding to the j_i 's parent body joint j_i^p
w_f	Weight corresponding to the $(t - f)^{th}$ reference frame
N_f	Number of temporal frames used for bit-requirement estimation
(c_x, c_y)	Current prediction residual
(r_x, r_y)	Reference prediction residual
(d_x, d_y)	Difference prediction residual
$b_{SID_s^t}^t$	Number of bits used to encode skeleton ID (SID_s^t)
$b_{O_s^t}^t$	Number of bits used to encode the occlusion information corresponding to the s^{th} skeleton in the t^{th} frame
$\widehat{b}_{mode}^t(j_i)$	Estimated the bit-requirement for j^{th} body joint in the selected prediction mode
b_{total}^t	Total number of bits required to encode complete skeleton information corresponding to the t^{th} frame
$b_{N_s^t}^t$	Total number of bits required to encode N_s^t
$b_{j_i}^t$	Total number of bits required to encode j^{th} body joint