

LIST OF NOTATIONS

Symbols	Definition
I	Binary image
H	Structuring element
$I \ominus H$	Erosion of I by structuring element H
$I \oplus H$	Dilation of I by structuring element H
$I \bullet H$	Closing morphology of I by structuring element H
i, j	Position
E	Frame N
$SAD_{i,j}$	Sum of Absolute Difference in position i, j
Mo	Model
N	Maximum number of frame
E_+	A frame $m \times n$ with added w zero columns when Mo shifts w pixels horizontally, and added h zero rows when Mo shifted h pixels vertically
Ls_{opt}	Optimum object location
fDi	Frame difference of frame 1 with other frames
$Med_{i,j,k}$	Median of difference frame on each blocks
$Max_{j,k}$	Maximum value of $Med_{i,j,k}$ in the whole difference frames
$B_{j,k}$	Block area
th	Threshold value
L	Low, a symbol for the value 0-4 which means no movement
H	High, a symbol for the value 5-255 which means there were movement
O_p	A set of block belongs to the object region
BG_q	A set of blocks belongs to the background region
R	O_p or BG_q