

## SYMBOLS

$S$	Supapixel Center
$N$	Number of Pixel,
$K$	Desired number of Supapixel
$C_k$	Cluster Center for supapixel K
$d_{lab}$	Euclidean distance of CIELab Color Space
$d_{xy}$	Euclidean position of pixel in XY plane
$D_s$	Euclidean distance of Supapixel Center
$E$	Residual Error
Threshold	Lower bound value
$S_{px}$	Supapixel
mode	Most occurred number in statistic
$N_{spx}$	Total number pixel in Supapixel
$Y$	Gray level Color Space
$X, Y, Z$	XYZ color space
$B_k$	Bin of HSV from 1 to k
$S_{pxi}(\text{label})$	Supapixel i with its label
$K$	Number of label
$C$	Cost of classification
gamma	Gaussian radial basis function parameter
$Pos$	Position of Supapixel
$p(D)p$	Percentage of supapixel distribution on position p (top, middle, bottom)
$I$	Image
$TM$	Training Model
$l'$	Label resulted from guided SVM
$l''$	Label resulted from guided Label Refining