

## 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                                |