Find interest points (dense SIFT) in template and use K means clustering to cluster them in visual words

Manually select the within a bounding box for the template

Compute histogram for the template using bag of words model

Warp the bounding box using Lucas Kanade estimate and find new interest points and check the foreground/background nature by assigning it to nearest cluster and check if cluster has large number of object interest points

Find maximum of optimization function and estimate warp parameters error

Compute confidence measures at every iteration (in each frame of computation).

Check in every frame if occlusion declared and proceed accordingly

After every 5 frames update template if no occlusion

Update template histogram with the new interest points. Cluster the new interest points also and create an updated histogram

Compute C1(w) by using the new template and compute check if it is lesser than the C1(w) produced by the older template

If no keep using old template and discard new template

If yes replace old template with new template

We always store the original template and an additional updated template

OCCLUSION

DECLARED

Compute C1(w) for both of the methods and choose the result (as new position of object) which gives lower C1(w)

Else, do not update template and compute new estimate of position using 1)Multi Scale Lucas Kanade

2)Assume zero order hold and do not change position

Compute C1(W) AND C2(W)

If C1(w) <TH1 and C2(w)>TH2 update template every 5 frames