Tracking Algorithm Description

Objects are detected from a binarized background subtracted image using the opencv software package. Contours above a minimum threshold are input into the tracking algorithm and used to compute all pairwise distances between previously tracked objects and current contours. The size is discounted using the projection of the distance onto plane, the angle above which is determined by the size of the detected contour. The optimal relation minimizing total distance between tracked objects and current contours is determined using Munkre’s assignment algorithm (or the Hungarian method) on the discounted distance matrix. Unassigned objects are added as new tracks at the end of each cycle.