

We address the problem of abandoned object classification in video surveillance. Our aim is to determine (i) which feature extraction technique proves more useful for accurate object classification in a video surveillance context (scale invariant image transform (SIFT) keypoints vs. geometric primitive features), and (ii) how the resulting features affect classification accuracy and false positive rates for different classification schemes used. Objects are classified into four different categories: bag (s), person (s), trolley (s), and group (s) of people. Our experimental results show that the highest recognition accuracy and the lowest false alarm rate are achieved by building a classifier based on our proposed set of statistics of geometric primitives' features. Moreover, classification performance based on this set of features proves to be more invariant across different learning algorithms.