# A BACKGROUND MODELLING ALGORITHM FOR MOTION DETECTION

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**Abstract:** Detecting moving objects is very important in many application contexts such as people detection, visual surveillance, and so on. The first and fundamental step of all motion detection algorithms is the background modeling. The goal of the methodology here proposed is to create a background model substantially independent from each hypothesis about the training phase, as the presence of moving persons, moving background objects, and changing (sudden or gradual) light conditions. We propose an unsupervised approach that combines the results of temporal analysis of pixel intensity with a sliding window procedure to preserve the model from the presence of foreground moving objects during the building phase. Moreover, a multilayered approach has been implemented to handle small movements in background objects. The algorithm has been tested in many different contexts, such as a soccer stadium, a parking area, a street, a beach. Finally, it has been tested even on the CAVIAR 2005 dataset.