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## UNSUPERVISED LEARNING OF APPEARANCE CLASSES FROM VIDEO

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### **Abstract:**

This paper proposes an unsupervised learning framework in which models of multiple objects' appearance classes are learned from video. These models are used to detect objects of different classes in the scene. The proposed technique combines appearance and motion features in a weighted combination framework resulting in models of object classes. Thus, better detection results are achieved compared to foreground based tracking and to those obtained in a supervised way. Since the proposed technique is unsupervised, a good detection rate is achieved without manual effort expended in data collection and labelling. Experimental results confirm that the proposed framework offers a promising solution for detection in unfamiliar scenes.

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