

Visual Surveillance Group



The visual surveillance group is concerned with all aspects of monitoring the behavior of people, particularly in realistic situations and environments. This requires the study of how to detect, recognize and keep track of both stationary and moving objects, as well as how to characterize the events involving them. In particular, we put special emphasis on face and body detection and recognition.

One of the issues we are dealing with is the detection and annotation of behaviors that are normally very rare, usually referred to as anomalous events. The application is to monitor the activity within relatively confined spaces. Another issue is monitoring the entry and exit from these defined spaces based on face recognition and other human features. A third emphasis is on affective recognition, in which we are concerned with measuring a person's mood based on the facial expression exhibited while passing in and out of the confined space. These objectives present a considerable challenge to researchers and involve issues of object pose, illumination, occlusion, data attrition and real-time functioning.

In artificial intelligence and computer vision, this type of research was once known under the

rubric of "scene analysis" or "image understanding", although these studies were largely restricted to using static imagery. Recently visual surveillance has taken on greatly increased significance as a result of the ubiquitousness of live video cameras in private and public locations. The primary technical issue then becomes how to automatically signal significant temporal events. This is the objective of our research.