

Chapter 1

Human Action Recognition

Human actions are the main content of movies, TV news and shows, home video, and video surveillance. Recognition of human actions has a lot of implications, for a surveillance system require action recognition to detect abnormal situations. It can be almost anything. The simplest thing is when the person abruptly falls to the ground from the heart attack. If this situation is promptly recognized and emergency service arrives shortly, then the person can be saved. The other example is video archive indexing and retrieval. Automatic indexing of human actions and events allow us to search for a specific event like scene where Putin and Obama shake hands. Or we can simply navigate content and rewind to the next goal in the football match. The goal is to assign a label of action or event to a video clip.

Chapter 2

Action localization

Action localization is similar to object detection problem. The goal is to search for a spatial region and time interval of action in a video. Several actions can happen simultaneously, like several objects can be detected in a single image.