Abstract

This paper presents the performance analysis of various contemporary feature detector and descriptor pair for real-time face tracking. These feature detectors/descriptors are mostly used in image matching applications. Some feature detectors/descriptors like STAR, FAST, BRIEF, FREAK, and ORB can also be used for SLAM applications due to their high performance. However, using only one of these feature detectors for object tracking may not provide good accuracy due to various challenges in tracking like abrupt change in object motion, non-rigid object structure, change in appearance of object, occlusions in the scene and camera motion. But it can be combined with other object tracking algorithm to improve the overall tracking accuracy. In this paper we have measured the tracking speed and accuracy of these feature detectors in real-time video for face tracking using parameters like average number of detected key points,
average detection time of key-point, frame per second and number of matches using OpenCV.

References

Index Terms

Computer Science

Video Processing

Keywords

Face tracking  Feature detectors and Feature descriptors.