Real-Time Object Tracking Based On Sequential Frames

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ABSTRACT

Although real-time object tracking is not a new problem in research in the field of computer vision, it still remains a problem that continues to receive much attention from researcher. Many approaches have been developed so far and documented in the literature. This presentation is an attempt to propose a new approach for real-time object tracking. Our approach is Fast Silhouette Determination Algorithm (FSD Algorithm), a fast algorithm to find the difference between two sequential frames based on the motion of an object in front of the camera to determine which pixels have changed from one frame to the other. Once the pixels have been identified, noise is eliminated from the data using some morphological operations and noise reduction filtering. The last step of the algorithm is to determine the silhouette based on the contours of the areas that contain a combination of neighboring pixels and calculate the position of the silhouette within the frame. Accordingly, this algorithm allows for tracking multiple types of objects that do not depend on the shape or the color of the object.

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