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HUMAN ACTIVITY BASED VIDEO RETRIEVAL USING OPTICAL FLOW AND LOCAL BINARY PATTERNS

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Abstract:

An automatic content-based video retrieval (CBVR) system utilises visual data of videos to search for user's desired query from a large collection of videos. The need for CBVR can be attributed to the massive growth of video data, which made the manual-based retrieval of videos a challenging task. CBVR (for human action videos) relies on action recognition to search for videos containing specific actions. This paper proposes an optical flow based local motion texture analysis scheme for human action representation. A single video was used as a query to retrieve similar videos from the database. Local binary pattern for three orthogonal planes over temporal cubes of an optical flow provides the spatial and temporal description of motion. A minimum distance classifier can retrieve videos based on a distance measure between the query and stored videos. The proposed retrieval scheme is able to achieve sixty six percent precision using an existing dataset, which compares well with the state-of-art approaches.

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