MODEL−FREE FACE DETECTION AND HEAD TRACKING WITH MORPHOLOGICAL HOLE MAPPING (WedPmPO4)

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Abstract :

Face detection algorithms have various applications like recognition, expression analysis or video conferencing. Nonetheless, most existing algorithms require additional a−priori knowledge or time−consuming preprocessing steps. In this paper, a model−free feature based approach for face detection and tracking is presented. Possible skin clusters are defined based on one of three different color spaces. In contrast to prior methods, afterwards not the kind or properties of facial characteristics, but only their existence is evaluated in a so−called hole map. Finally, the detection of faces from these skin clusters is performed with a mapping process. This both fast and easy operation can be used for detection and tracking of heads. Good and robust results are obtained for various real−world scenarios.

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