AUTOMATIC 3D FACE RECOGNITION USING TOPOLOGICAL TECHNIQUES (FriPmPO1)

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Abstract:
In this paper, we use the three-dimensional topological shape information for human face identification. We propose a new method to represent 3D faces as a topological graph. Fine registration of surfaces is done by first automatically finding topological connected components, and then constructing its topological graph representing the important topological changes on the face. The similarity calculation between 3D faces is processed using coarse-to-fine strategy while preserving the consistency of the graph structures, which result in establishing a correspondence between the parts of faces. The experiments made with a 144 3D faces dataset show the efficiency of our approach.