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3D head model classification based on cluster ensemble

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Date :

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Time :

11:30am-12:00 noon

Venue :

CS Seminar Room, Rm Y6405, 6th Floor Yellow Zone, Academic Building, City University of Hong Kong, Tat Chee Avenue, Kowloon Tong.

Abstract

Although there exist a lot of approaches for 3D model classification, none of them explore how to adopt the cluster ensemble framework to improve the classification accuracy. In this talk, a cluster ensemble algorithm (CEA) for 3D model classification will be introduced. CEA first extracts different feature vectors from 3D models, such as the volumetric extended Gaussian image (VEGI), geometrical moments, shells histogram and sectors histogram. Then, k-means clustering is applied to these feature vectors. According to the clustering results, a similarity matrix is constructed for the 3D model set. Finally, the normalized cut algorithm is applied to partition the similarity matrix and obtain the final classification result. Our experiments show that CEA can accurately categorize different model types in a 3D head model dataset.

This paper was presented in the 5th International Conference on Machine Learning and Data Mining in Pattern Recognition, July 18-20, 2007.

Supervisor: Dr. H S Wong (CS)
Research Interests: Pattern recognition, Multimedia

All are welcome!

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