A comparison framework for 3D object classification methods

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Source: MULTIMEDIA CONTENT REPRESENTATION, CLASSIFICATION AND SECURITY **Book Series:** LECTURE NOTES IN COMPUTER SCIENCE **Volume:** 4105 **Pages:** 314-321 **Published:** 2006

Times Cited: 1 **References:** 13

Abstract: 3D shape classification plays an important role in the process of organizing and retrieving models in large databases. Classifying shapes means to assign a query model to the most appropriate class of objects: knowledge about the membership of models to classes can be very useful to speed up and improve the shape retrieval process, by allowing the reduction of the candidate models to compare with the query.

The main contribution of this paper is the setting of a framework to compare the effectiveness of different query-to-class membership measures, defined independently of specific shape descriptors. The classification performances are evaluated against a set of popular 3D shape descriptors, using a dataset consisting of 14 classes made up of 20 objects each.

Document Type: Article

Language: English

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Publisher: SPRINGER-VERLAG BERLIN, HEIDELBERGER PLATZ 3, D-14197 BERLIN, GERMANY

Subject Category: Computer Science, Theory & Methods

IDS Number: BFE20

ISSN: 0302-9743

Cited by: 1

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