

Navigation and Discovery 3D models in CAD repositories

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Abstract:

Searching for 3D shapes is an active area of research, today as it has significant implications in many fields such as Computer Vision, CAD, 3D Data compression and Transmission etc. Many of the current research efforts focus on developing better shape representations for the task of shape based retrieval. A related problem is that of how to present the results of a shape based query to the user. Traditional 1D list based interfaces where results are presented in pages may not be best suited for 3D shape search. A new interaction paradigm for navigation and discovery in large CAD model repositories is presented. The proposed interface involves displaying hundreds of images in a 3D space whose position and arrangement is determined using multi-dimensional scaling. Results from preliminary user testing show that the proposed paradigm is more effective than the current approach.