

The Reconstruction Problem: Integrating Different Approaches into a Systematic Procedure for Pseudo Wireframe Retrieval

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Abstract

Nowadays three-dimensional Computer Aided modeling is of outstanding importance in the mechanical design process since it impacts on several issues like visualization, simulation, machining, etc. Anyway, multi orthographic view engineering drawings have been widely used up to latest decade and still are, so they play an essential role in traditional engineering. The conversion from 2D drawings to 3D CAD models is still a key task in a wide range of applications. In order to cope with this issue a number of works have been proposed in the last decades, providing a series of methodologies for solving the reconstruction problem. On the basis of such methodologies the main aim of the present paper is to suggest a comprehensive, orderly, unambiguous and automatic procedure meant to help researchers and practitioners who want to deal with the reconstruction problem. The procedure, by using an appropriate formal mathematic language, systematize and integrates some of the methods proposed so far.

Key Words: Pseudo-wireframe, 3D Reconstruction, Engineering Drawings, Or-