

A Dynamic Framework for Intelligent Inspection

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Abstract

CAD (Computer Aided Design) typically involves the design, manufacture and inspection of a mechanical part. The problem of reverse engineering is to take an existing mechanical part as the point of departure and to inspect or produce a design, and perhaps a manufacturing process, for the part. We propose to explore the feasibility of a new approach to inspection and reverse engineering applications. In particular, we investigate the use of discrete event dynamic systems (DEDS) to guide and control the active exploration and sensing of mechanical parts for industrial inspection. The proposed framework utilizes DEDS for constructing an observer for inspection purposes.

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