

# A Dynamic Recursive Structure for Intelligent Inspection

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## Abstract

We suggest a new approach for 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 and reverse engineering. We introduce dynamic recursive finite state machines (DRFSM) as a new DEDS tool for utilizing the recursive nature of the mechanical parts under consideration. The proposed framework uses DRFSM DEDS for constructing an observer for exploration and inspection purposes.

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