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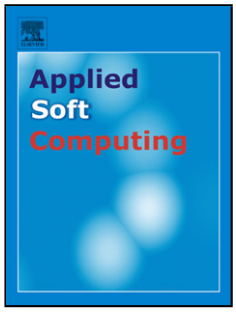

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Free-form Surface Parts Quality Inspection Optimization with a Novel Sampling Method

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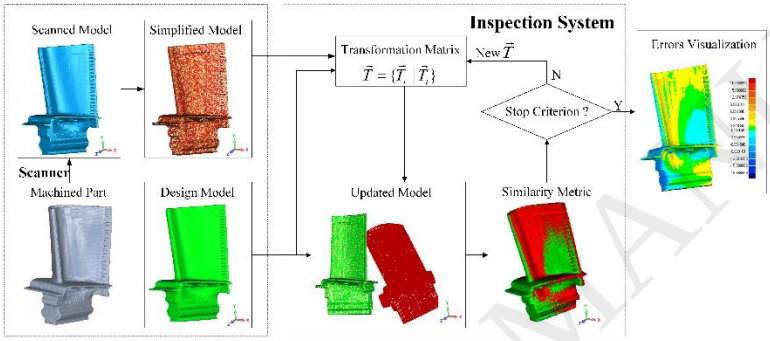
Graphical abstract



Highlights

- A feature and boundary-aware sampling method is proposed based on the MMD for point cloud simplification.
- Saccade factor is introduced into the FFO algorithm to find the optimal transformation parameters.
- Two optimization strategies are proposed for heuristic algorithms to solve the point sets registration problem.
- The proposed framework has high performance on accuracy and robustness for free-form surface parts quality inspection.

Abstract: Quality inspection is a critical step in the process of manufacturing of free-form surface parts. For dimensional quality control, registration is normally used to match the measurement model to the

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