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Systematic Planning of Quality Inspection Strategies in Manufacturing Systems

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Abstract

Quality inspection planning is an integral part of the production planning process. It is often derived from the experience of the planner. Despite the increasing availability of data during the manufacturing phase and the emergence of data analytics tools to transform these data into valuable information, there is a lack of revising existing inspection activities as part of quality control. In order to adopt the quality inspection strategies with regard to specific intermediate product characteristics, this paper enables the systematic planning of quality inspection strategies based on the current state of individual products within the manufacturing system. The generated strategies are evaluated based on the expected value of strategy-specific costs. To integrate conditional probabilities of arising uncertainties Bayesian Networks are utilized.

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