Abstract

Automated vision inspection has become a vital part of the quality monitoring process. This paper compares the development and performance of two methodologies for a machine vision inspection system online for high speed conveyor. The first method developed is the Thresholding technique image processing algorithms and the second method is based on the edge detection. A case study was conducted to benchmark these two methods. Special effort has been put in the design of the defect detection algorithms to reach two main objectives: accurate feature extraction and on-line capabilities, both considering robustness and low processing time. An on-line implementation to inspect bottles is reported using new communication technique with GigE Vision camera and industrial Gigabit Ethernet network. The system is validated on olive oil bed. The implementation of our algorithm results in an effective real-time object tracking. The validity of the approach is illustrated by the presentation of experiment results obtained using the methods described in this paper.
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Index Terms

Computer Science
Vision
Keywords

GigE vision camera  Image processing  Quality Monitoring  Defects detection