An Online System for Detecting Bending in a Pallet Car

International Journal of Computer Applications
Foundation of Computer Science (FCS), NY, USA

Volume 152
Number 10

Year of Publication: 2016

Authors:
Ahmad Pouramini

10.5120/ijca2016911835

Abstract

Image processing techniques are widely used to detect defects in industrial equipment. In this paper, an online system is presented to detect bending in pallet cars of a travelling grate conveyor used in sintering machines. If bending in several pallet cars exceeds a specified limit, it can stop the production line. Therefore, an early and precise diagnosis is required. The system consists of a camera in a specific position to monitor the pallet cars and provide an online video. A method is presented to detect and extract an appropriate image of a pallet car from this video. The image is then processed to detect bending of the pallet car’s middle frame and measure the degree of bending. Particularly, edge detection methods and Hough transform are used to locate and measure the curvature. The experimental results show a precision of 98% and a recall of 100% for the detection method.

References

1. John Canny. A computational approach to edge detection. IEEE Transactions on pattern

Index Terms

Computer Science

Image Processing
Keywords

Defect Detection, Hough Transform