An image registration technique to enhance PCB inspection algorithms with real images

Abstract

It is well known that real PCB image inspection based on referential ap ~ proaches faces misalignment problems in detecting dejects between a template image and a defective image. Hence, a reliable image registration technique is needed to align these two images perfectly. Hence. a registrntion technique which incorporates affine transformation and bi-cubic interpolation has been proposed. Experimental resulu have shown that this registration technique is suita ble to be employed to obtain well-aligned defective images before detection algorithm takes place in PCB inspection. Keywords: Printed circui t boards, Image registr ation, Affine t ransformation, Bi-cubic interpolation, Defect detection.