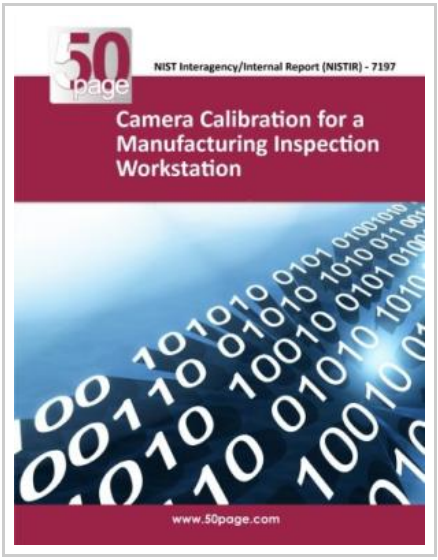

Camera Calibration for a Manufacturing Inspection Workstation

By NIST

CreateSpace Independent Publishing Platform. Paperback. Book Condition: New. This item is printed on demand. Paperback. 64 pages. Dimensions: 11.0in. x 8.5in. x 0.1in.A CCD camera mounted on a manufacturing part inspection workstation is calibrated for measuring 3D part geometry. It is calibrated by using computer algorithms to analyze data collected from a specially designed calibration image pattern. The calibration image used is a black and white checkerboard pattern. A commonly used camera calibration procedure is used to analyze the image data of the checkerboard calibration image. A camera model is obtained which contains intrinsic parameters representing the characteristic properties of the camera. The calibration is proven to result in a sub-pixel accuracy. A machine-part test specimen is chosen to demonstrate the accuracy of application of the camera model to predict geometrical feature locations of usual manufacturing parts. As a first trial, the experimental test shows that an accuracy on the order of 1 mm is easily attainable in predicting the feature locations, with the part being placed at a distance about 45 cm from the camera. Depending on the applications, special optical lens assembly may be designed to attach on the CCD camera and higher measurement accuracy of the feature...

Reviews

This type of publication is almost everything and helped me looking forward and much more. I am quite late in start reading this one, but better then never. You wont really feel monotony at whenever you want of your own time (that's what catalogs are for relating to if you ask me).

-- ***Prof. Buddy Leuschke***

It is really an awesome pdf that I actually have actually study. It really is basic but excitement from the 50 % of the publication. I am delighted to inform you that here is the greatest book i have read through within my individual existence and can be he finest publication for actually.

-- ***Mrs. Yasmine Crona***