Bayesian Pressure Snake forWeld Defect Detection

A. B. Goumeidane, M. Khamadja, N. Nacereddine

Abstract: Image Segmentation plays a key role in automatic weld defect detectionand classification in radiographic testing. Among the segmentation methods,boundary extraction based on deformable models is a powerful techniqueto describe the shape and then deduce after the analysis stage, the type of thedefect under investigation. This paper describes a method for automatic estimationof the contours of weld defect in radiographic images. The method uses astatistical formulation of contour estimation by exploiting statistical pressuresnake based on non-parametric modeling of the image. Here the edge energy isreplaced by a region energy which is a function of statistical characteristics ofarea of interest.

Keywords : Snake, images segmentation, pdf estimation, radiographic images, Non Destructive Inspection