

Abstract

Khaled Mahar

Artificial Neural Network For Texture Classification Using Several Features: A Comparative Study

texture analysis plays an essential major role in image classification/segmentation in a wide range of applications such as medical imaging, remote sensing/industrial inspection. in this paper, we review the well known approaches of texture feature extraction/perform a comparative study between them. these approaches are namely gray level histogram, edge detection, co-occurrence matrices, besides gabor/orthogonal wavelet transformations. the feed forward artificial neural network (ann) with back-propagation algorithm (bpa) is used as a supervised classifier. experiments are conducted on two different datasets taken from multi-class engineering surfaces produced by six machining processes/from brodatz (1966) textures album respectively. the classification accuracy is tested for both datasets, while the quality of estimation is tested for surface roughness parameters of the machined surfaces dataset only based on the roughness parameters evaluated from a contact measurement test.