Abstract

Most of the studies in image contents recognition and identification focus on identifying the objects that the image contains. Although, background identification is an important part of any image contents identification and description, it has received less attention. Background identification is as important as the objects in the image in describing the image contents. This paper presents a new algorithm to identify the background in an image which utilises the principles of human image understanding and the way they describe the contents of the image. Because backgrounds are with less variation as compared to objects variations in different images, neural network can be used in recognising them. Usually backgrounds can be described based on their texture and colour; thus, these two features will be used in the identification process. Texture is described using measures extracted from Grey Level Co-occurrence Matrices (GLCMs and singular GLCM). Since different textures may produce similar GLCMs, colour features can be used to discriminate among them. Fuzzy Standard Colours are presented in this research which is a simulation to the way the human describe the colours. Additionally, Fuzzy intelligence is used to combine the two features to decide the type
of the background.

References


Index Terms

Computer Science

Pattern Recognition
Keywords

Image, Fuzzy, Background, Identification.