

Texture and color features for tile classification

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In this paper we present the results of a preliminary computer vision system to classify the production of a ceramic tile industry. We focus on the classification of a specific type of tiles whose production can be affected by external factors, such as humidity, temperature, origin of clays and pigments. Variations on these uncontrolled factors provoke small differences in the color and the texture of the tiles that force to classify all the production. A constant and non- subjective classification would allow avoiding devolution from customers and unnecessary stock fragmentation. The aim of this work is to simulate the human behavior on this classification task by extracting a set of features from tile images. These features are induced by definitions from experts. To compute them we need to mix color and texture information and to define global and local measures. In this work, we do not seek a general texture-color representation, we only deal with textures formed by non-oriented colored-blobs randomly distributed. New samples are classified using Discriminant Analysis functions derived from known class tile samples. The last part of the paper is devoted to explain the correction of acquired images in order to avoid time and geometry illumination changes.