

Performance Evaluation of Completed Local Ternary Patterns (CLTP) for Medical, Scene and Event Image Categorisation

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ABSTRACT

The Completed Local Ternary Pattern descriptor (CLTP) was proposed to overcome the drawbacks of the Local Binary Pattern (LBP). It used for rotation invariant texture classification and demonstrated superior classification accuracy with different types of texture datasets. In this paper, the performance of CLTP for image categorisation is studied and investigated. Different image datasets are used in the experiments such as the Oliva and Torralba datasets (OT8), Event sport datasets, and 2D HeLa medical images. The experimental results proved the superiority of the CLTP descriptor over the original LBP, and different new texture descriptors such as Completed Local Binary Pattern (CLBP) in the image categorisation task. In 2D HeLa medical images, the proposed CLTP achieved the highest state of the art classification rate reaching 95.62%.

Keywords- *Completed Local Ternary Pattern descriptor (CLTP), Local Binary Pattern (LBP), Completed Local Binary Pattern (CLBP), 2D HeLa, image categorisation*