

Color Mapping for Using Digital Imaging in Medicine

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Abstract— This paper introduces an automatic colorization of 3D volumetric medical image based on brain Computed Tomography (CT) scan images. This volumetric 3D images are generated from Digital Imaging and Communications in Medicine (DICOM) images. This research renders the DICOM images to volumetric images using ray marching method. Then automatically colorized each brain parts by computing the transfer function based on the value of grayscale to compared to tissue density. Our proposed method focused on the value which color each parts of the brain as well as the use of ray marching algorithm to show colorized result in 3D.

Keywords— Computed Tomography, Volume Rendering, Ray