

IoT – Based Beard Detection System using Id-Card for Enhanced Security

P. Thirupathi¹, Bayoju Karthik², Beerla Sushanth³, Shazia Sameen⁴, Kongaria Anusha⁵

Associate Professor, Department of Electronics & Communication Engineering¹

UG Students, Department of Electronics & Communication Engineering^{2,3,4,5}

Christu Jyothi Institute of Technology & Science, Jangaon, Telanagana, India

Abstract: *In today's dynamic and technology-driven world, attendance management systems are undergoing transformation through the integration of Internet of Things and Facial hairdetection and segmentation play an important role in forensic facial analysis. In this paper, we propose a fast, robust, fully automatic and self-training system for beard/moustache detection and segmentation in challenging facial images. In order to overcome the limitations of illumination, facial hair color and near-clear shaving, our facial hair detection self-learns a transformation vector to separate a hair class and a non-hair class from the testing image itself. A feature vector, consisting of Histogram of Gabor (HOG) and Histogram of Oriented Gradient of Gabor (HOGG) at different directions and frequencies, is proposed for both beard/moustache detection and segmentation in this paper. A feature-based segmentation is then proposed to segment the beard/moustache from a region on the face that is discovered to contain facial hair.*

Keywords: Oriented Gradient of Gabor

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