

IMAGE ENHANCEMENT BY IMAGE FUSION FOR CRIME INVESTIGATION

*A project report submitted to Jawaharlal Nehru Technological University, Kakinada
In the partial fulfilment of the requirements for the award of degree of*

BACHELOR OF TECHNOLOGY IN ELECTRONICS AND COMMUNICATION ENGINEERING

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CERTIFICATE

This is to certify that the project work entitled **"IMAGE ENHANCEMENT BY IMAGE FUSION FOR CRIME INVESTIGATION"** is being submitted for partial fulfillment for the award of Bachelor of Technology in **Electronics & Communication Engineering** is a bonafide work done by **S.SANTOSHIDIVYA (18815A0412), L.POOJITHA (17811A0423), P.ARUNA JYOTHI (17811A0437), G.JITHENDRA (17811A04322)** under the guidance during year 2020-2021 and it has been found suitable for according to the requirements of the university.

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EXTERNAL EXAMINER

ABSTRACT

In the criminal investigation field, images are the principal forms for investigation and for probing crime detection. The imaging science applied in criminal investigation is face detection, surveillance camera imaging, and crime scene analysis. Digital imaging succors image manipulation, alteration and enhancement techniques. The traditional methodologies enhance the given image by improving the local or global components of the image. It proves a debacle since it engages noise amplification, block discontinuities, color mismatch, edge distortion and checkerboard effects thereby limiting image processing tasks. To the same degree of enhancement, spurned artefacts are given rise. Thus to balance the global and local factors of the image and to weed out the tenebrous components; fusion of multiple alike images are performed to produce a meliorated image. The fusion is done by fusing a pyramid constructed image and a wavelet transformed image. The pyramid image and the wavelet transformed image are then fused through to afford a revealing image for better perception by the human visual system. The experimental results show that our proposed fusion scheme is effective and the fusion is applied over a surveillance camera image grab.

Keywords: Image Fusion, Image Enhancement, Image Pyramids, Wavelet Transformation, Image blending