RECOLORED IMAGE DETECTION VIA A DEEP DISCRIMINATIVE MODEL

A project report submitted in partial fulfillment of the requirements
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BACHELOR OF TECHNOLOGY
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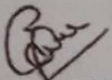
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VISAKHAPATNAM (DIST)

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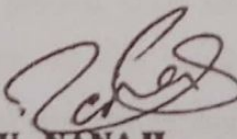### TAMARAM, MAKAVARAPALEM, NARSIPATNAM-531113

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CERTIFICATE

This is to certify that the Project Report entitled "Recoloured image detetion via a deep discrimintative model" being submitted by Lavanya Goljana (Regd.No.17811A0521) , A.HariNarayanareddy (Regd.No.17811A0503) , B.Devi(Regd.No.17811A0509) , B.Vaishnavi (Regd.No.17811A0504) in partial fulfilment of the requirements for the degree of B.Tech (C.S.E) in Department of Computer Science & Engineering ,at AVANTHI INSTITUTE OF ENGINEERING AND TECHNOLOGY affliated by Jawaharlal Nehru Technological University Kakinada ,is a record of bonafide work carried out by them under my guidance and supervision.

The results embodied in this thesis have not been submitted to any university or institute for the award or any degree of diploma.

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ABSTRACT:

Near duplicate image detection needs the matching of a bit altered images to the original image. This will help in the detection of forged images. A great deal of effort has been dedicated to visual applications that need efficient image similarity metrics and signature. Digital images can be easily edited and manipulated owing to the great functionality of image processing software. This leads to the challenge of matching somewhat altered images to their originals, which is termed as near duplicate image detection. This paper discusses the literature reviewed on the development of several image matching algorithms. Image recoloring is a technique that can transfer image color or theme and result in an imperceptible change in human eyes. Although image recoloring is one of the most important image manipulation techniques, there is no special method designed for detecting this kind of forgery. In this paper, we propose a trainable end-to-end system for distinguishing recolored images from natural images. The proposed network takes the original image and two derived inputs based on illumination consistency and inter-channel correlation of the original input into consideration and outputs the probability that it is recolored. Our algorithm adopts a CNN-based deep architecture, which consists of three feature extraction blocks and a feature fusion module. To train the deep neural network, we synthesize a dataset comprised of recolored images and corresponding ground truth using different recoloring methods. Extensive experimental results on the recolored images generated by various methods show that our proposed network is well generalized and much robust.