

# **REGION DUPLICATION FORGERY DETECTION USING HYBRID WAVELET TRANSFORM**

Submitted in partial fulfilment of the requirements  
of the degree of

**BACHELOR OF ENGINEERING**

In

**COMPUTER ENGINEERING**

By

Group No: 09

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Under the guidance of  
Dr. Archana B. Patankar  
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Computer Engineering Department  
Thadomal Shahani Engineering College  
University of Mumbai  
2015-2016

# CERTIFICATE

This is to certify that the project entitled **“Region Duplication Forgery Detection using hybrid wavelet transform”** is a bonafide work of

1204132      Shreepad Shetye

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submitted to the University of Mumbai in partial fulfilment of the requirement for the award of the degree of **“BACHELOR OF ENGINEERING”** in **“COMPUTER ENGINEERING”**.

Dr. Archana B. Patankar  
(Associate Professor, TSEC)  
(Guide)

Mr. Jayant Gadge  
(Head of Department)

Dr. G. T. Thampi  
(Principal)

# PROJECT REPORT APPROVAL FOR B. E

Project report entitled **Region Duplication Forgery Detection using hybrid wavelet transform** by

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is approved for the degree of “***BACHELOR OF ENGINEERING***” in  
“***COMPUTER ENGINEERING***”.

Examiners

1.-----

2.-----

Date:

Place: Mumbai

# DECLARATION

I declare that this written submission represents my ideas in my own words and where others' ideas or words have been included, I have adequately cited and referenced the original sources. I also declare that I have adhered to all principles of academic honesty and integrity and have not misrepresented or fabricated or falsified any idea/data/fact/source in my submission. I understand that any violation of the above will be cause for disciplinary action by the Institute and can also evoke penal action from the sources which have thus not been properly cited or from whom proper permission has not been taken when needed.

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(Shreepad Shetye, 1204132)

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Date:

# ACKNOWLEDGEMENT

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Shreepad Shetye

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# **ABSTRACT**

In the technique of copy move forgery, a certain portion of the digital image is copied and pasted into the same image, in order to hide this target portion. The tampered image looks very much original, since the target region despite being forged, has inherited the basic characteristics of the same image itself. Thus the detection for such kind of forgery is pretty difficult. This project proposes a method to detect such forged regions using Hybrid Wavelet Transform. The combination of transforms used for the same is of Kekre Wavelet Transform and Hadamard Transform. The Hybrid Transform obtained is then applied to even order overlapping blocks, and the features extracted from each block are then compared with features of all other blocks. For the same image, the overlapping block sizes are varied and a subjective selection is done from the results obtained for each block size.