

VISVESVARAYA TECHNOLOGICAL UNIVERSITY,

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A PROJECT REPORT

ON

**“LIFTING SCHEME WAVELET APPROACH IN
VIDEO STEGANOGRAPHY”**

Submitted By

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In partial fulfillment of the requirements for the degree of

BACHELOR OF ENGINEERING

In

INFORMATION SCIENCE AND ENGINEERING

Under the Guidance of

Mr. SATHYAPRAKASH

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DEPARTMENT OF INFORMATION SCIENCE & ENGINEERING

ALVA'S INSTITUTE OF ENGINEERING AND TECHNOLOGY

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CERTIFICATE

This is to certify that the Project entitled "Lifting Scheme Wavelet Approach in Video Steganography" has been successfully completed by

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The bonafide students of Department of Information Science and Engineering, Alva's Institute of Engineering and Technology in partial fulfillment for the award of BACHELOR OF ENGINEERING in DEPARTMENT OF INFORMATION SCIENCE AND ENGINEERING of the VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI during the year 2016-2017. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the report deposited in the departmental library. The project report has been approved as it satisfies the academic requirements in respect of Project work prescribed for the Bachelor of Engineering Degree.

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ABSTRACT

Steganography refers to information or a file that has been concealed inside a digital picture, video or audio file. The staggering growth in communication technology and usage of public domain channels has greatly facilitated transfer of data. However, such open communication channels have greater vulnerability to security threats causing unauthorized information access. Though steganography is a very old method of hiding information behind some object, but still this is very effective for secure data transfer and data exchange. Today steganography is used for digital objects like text, audio, video and images. Achieving more embedding capacity by maintaining the visual quality has become a challenging task. Data hiding methods like integer wavelet transform and histogram shifting shifts part of the histogram, to create space for embedding the secret information bits. The method embeds secret data while maintaining the visual quality well. Integer to integer wavelet transformation is applied to the secret data and wavelet histogram is used for embedding as it has a Laplacian like distribution and embedding can be done on both sides of the histogram to embed more data. Images with more number of points on the wavelet histogram peak can embed more data. The widely used measure PSNR and MSE is used to assess visual quality of the embedded video. The high compression ratio is maintained to improve the embedding capacity.