

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI



A PROJECT REPORT ON

REMOVAL OF GUASSIAN IMPULSIVE NOISE FROM COMPUTED TOMOGRAPHY

IN

COMPUTER SCIENCE & ENGINEERING

By

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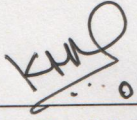
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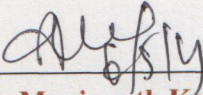
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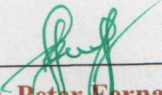
This is to certify that the project entitled **"REMOVAL OF GUASSIAN IMPULSIVE NOISE FROM COMPUTED TOMOGRAPHY"** has been successfully completed by

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the bonafide students of DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING, ALVA'S INSTITUTE OF ENGINEERING AND TECHNOLOGY of the VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI during the year 2018-2019. 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.


06/05/19
Mr. Harish Kunder
Project Guide

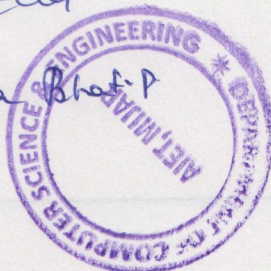

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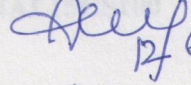
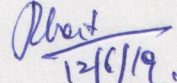
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12/6/19

12/6/19

ABSTRACT

Computed tomography images can be corrupted by mixed noises such as Gaussian and impulsive noise during acquisition time which results in reduction of its quality. Hence removing the noise from the image is very significant in medical image processing. The existing filters such as mean and median filter are not that efficient in removing impulse and Gaussian noise by retaining the details of the image. In “Removal of Guassian Impulse Noise From Computed Tomography”, a new filter is proposed which removes mixed noise such as Gaussian and impulse noise. Initially, pixels of image are separated into non-corrupted pixels and corrupted pixels based on existence of noises in their small neighborhood. The grey scale value of non-corrupted pixels are taken as output directly and for the corrupted pixels, removing Gaussian noises and impulse noises respectively is done based on their characteristics. The results demonstrate that the proposed filter can eliminate mixed noise of different density in a better way by also preserving the details of image when compared with the mean filter or the median filter for mixed noise.

B.4

Denoised image

64

B.5

Denoise image from input noisy image

65