Thesis title

A thesis
submitted in fulfillment of the requirements
for the award of the degree of

Doctor of Philosophy

submitted by

Name of candidate
(Reg. no. 00000000)

Under the Supervision of

Prof. XYZ

Department of Electronics & Communication Engineering
National Institute of Technology Kurukshetra
Kurukshetra, Haryana, India-136119
(Month, Year)

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Candidate's Declaration

I hereby declare that the work presented in the thesis entitled **"Thesis title"** in partial fulfillment of the requirements for the award of the Degree of **Doctor of Philosophy** and submitted in the Department of Electronics and Communication Engineering of the National Institute of Technology Kurukshetra is an authentic record of my own work carried out during a period from ..... to ..... under the supervision of **Prof. XYZ**, Department of Electronics and Communication Engineering, National Institute of Technology Kurukshetra.

The matter presented in this thesis has not been submitted by me for the award of any other degree of this or any other Institute/University.

(Name of candidate)
(Reg. no. 0000000)

This is to certify that the above statement made by the candidate is true to the best of our knowledge and belief.

(XYZ)
Professor, ECE Department
NIT Kurukshetra

Place: Kurukshetra
Date:

Dedicated to my family

ACKNOWLEDGMENTS

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I am obliged to my parents Father name and Mother name for their moral support, love, encouragement and blessings to complete this task. I am especially thankful to my wife Wife name for her patience, love and encouragement during this journey.

I wish to express my appreciation to my friends Friend name and Friend name and grateful thanks to research fellows at department for their help and motivation throughout my research work. I also would like to express my deep and sincerely thanks to my friends and all other persons whose names do not appear here, for helping me either directly or indirectly in all even and odd times.

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(Name of candidate)

ABSTRACT

Type Abstract here.

Contents

List of Figures

List of Tables

List of Acronyms/Abbreviations

2D	Two Dimensional
3D	Three Dimensional

MSE	Mean Squared Error

List of Symbols

η	Gaussian noise with distribution $\mathcal{N}(0, \sigma^2)$
σ	Noise level

$sgn(.)$	Signum function

Chapter 1

Introduction

This Chapter provides a brief description of .....
.....

1.1 Background

Type introduction part here. [1]

1.2 Motivation for the present research work

Type motivation here.

1.3 Problem statement

Type Problem statement here.

Figure 1.1: abcdefgh

1.4 Organization of the thesis

The research work presented in the thesis is organized and structured in the form of seven chapters, which are briefly described as follows:

i) **Chapter 1** describes the .....

ii) **Chapter 2** provides a comprehensive review of .....

iii) **Chapter 3** presents a .....

iv) **Chapter 5** deals with .....

v) **Chapter 6** presents a .....

vi) **Chapter 7** concludes the thesis with overall discoveries of the present research work. The scope for future work is also mentioned.

Chapter 2

Literature review

This Chapter presents a survey of most commonly used .....

2.1 abcs

Noise is a random variation of brightness in digital images that often occurs due to imperfections in imaging devices and ..... [1]

$$v(i) = u(i) + \eta(i) \tag{2.1.1}$$

2.1.1 xyz

Figure 2.1: Image

Chapter 3

Adaptive algorithm

The choice of smoothing parameter .....

3.1 Background

To preserve the inherent [2] .....

3.2 Proposed algorithm

An image contains .....

3.3 Experimental results

This section presents quantitative and qualitative results of the proposed algorithm .....

Table 3.1: XYZ

SSSS	**PPP**					**BBB**				
PPPB	3×3	5×5	7×7	9×9	11×11	3×3	5×5	7×7	9×9	11×11
9×9	30	29	28	-	-	27	26	26.5	-	-
11×11	30	30	29	28	-	27	28	27	26.6	-
13×13	29	30	**30**	29	28	27	28	**28.1**	27.5	26.5
15×15	29.88	30.27	30.13	30.05	29.51	27.71	28.11	27.97	27.87	27.43
17×17	29.92	30.04	30.04	29.89	29.88	27.73	28.03	27.90	27.82	27.73
19×19	29.89	29.99	29.84	29.91	29.82	27.58	27.90	27.81	27.66	27.70
21×21	29.75	29.85	29.47	29.53	29.66	27.5	27.83	27.68	27.59	27.51

3.4 Summary

The selection of .....

Chapter 4

Adaptive algorithms

In addition to the issue of .....

4.1 Introduction

NLM algorithm [2].....

4.2 Experimental results

In this section, the performances of the proposed algorithms .....

4.2.1 Choice of parameters in the proposed methods

Several authors .....

4.3 Summary

In this chapter, some new approaches.....

Chapter 5

Wavelet-based denoising algorithms

The shape of a local window .....

5.1 Introduction

Wavelet-based image [3].....

5.2 Proposed approach

The shape of the local window

5.3 Experimental results

In this section, the performance of anisotropic shaped region .....

5.3.1 Choice of parameters in the proposed approach

For all experiments, the size of region and subregion

5.4 Summary

In this chapter, a statistical approach .....

Chapter 6

Adaptive hybrid algorithms

This Chapter explores the possibility .....

6.1 Introduction

Generally, non-local methods.....

6.2 Experimental results

The performance of the proposed approaches

6.3 Summary

This chapter presents a simple a.....

Chapter 7

Conclusions and future directions

The research work presented .....

7.1 Conclusions

The research work embodied in this thesis has addressed the problem of ..... various aspects of the research problem are investigated and the main findings are summarized below.

7.2 Scope for future study

There are many issues in .....

- The present research work can be extended to .....
- Images may be affected by multiple degradations .....
- Some new features .....
- The proposed approaches .....

List of Publications

Referred journals:

[1] **X** and Y, "Paper title," ***Journal name***, year, pages . **(indexing)**

[2] **X** and Y, "Paper title," ***Journal name***, volume , year, pages . **(indexing)**

[3] **X** and Y, "Paper title,"***Journal name***, year, Volume , Issue , pages . **(indexing)**

[4] **X** and Y, " Paper title," ***Journal name***, year. **(indexing)**

International conferences:

[1] **X** and Y, "Paper title," ***Conference name***, location, year, pp. .

[2] **X** and Y, "Paper title," ***Conference name***, location, year, pp. .

Papers communicated in referred journals:

[1] **X** and Y, "Paper title," ***Journal name***, year, pages . **(indexing)**

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