

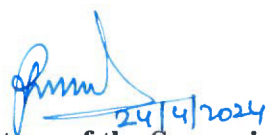
## CERTIFICATE

I Certify that the thesis entitled “**Specular Reflection Removal on Smart Colposcopy Images using Deep Learning Inpainting Model for Enhanced Grading of Cervical Cancer**” submitted to Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore for the award of **Doctor of Philosophy (Ph.D.) in Computer Science** is the record of original research work carried out by **Jennyfer Susan M B** during the period from **July 2019 to April 2024** of her study in the Department of Computer Science, to Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore under my guidance and supervision, and that this work has not formed the basis for the award of any Degree/ Diploma/Associate ship/Fellowship or other Titles in this Institute or any other University or Institution of Higher Learning.

  
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## DECLARATION

I hereby declares that the matter embodied in the thesis entitled “**Specular Reflection Removal on Smart Colposcopy Images using Deep Learning Models for Enhanced Grading of Cervical Cancer**” submitted by me for the degree of Doctor of Philosophy (Ph.D.) is the record of work carried out by me in the Department of Computer Science, Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore, during the period from **July 2019 to April 2024** under the guidance of **Dr. P. Subashini, Professor**, Department of Computer Science, Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore and it has not formed the basis for the award of any Degree/Diploma/Associate ship/ Fellowship or similar title in any other institute or any other University or other similar institution of Higher Learning.



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## ACKNOWLEDGEMENT

At the outset, I would like to express my sincere gratitude to the God Almighty for his/her constant love, blessing and grace showered on me making my meaningful and worthwhile to the society.

I express my reverential gratitude to *Late Sri. T.S. Avinashilingam Ayya Avl.*, Founder and the First Chancellor, Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore, for providing this temple of learning for women.

My reverential gratitude to *Late Dr. (Tmt) Rajammal P. Devadas Amma Avl.*, M.A., M.Sc., Ph.D. (OHIO State), Hon. D.Sc., Hon D.Sc., Former Chancellor, Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore, *for her heavenly blessings.*

I express my gratitude to the *Late Padma Shri. Dr. P. R. Krishnakumar*, Former Chancellor, Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore, for providing me with an opportunity, infrastructure and all the amenities to carry out the research.

I express my heartfelt thanks to Former *Chancellor Dr. S. P. Thyagarajan*, D.Sc., M.D., Ph.D., Avinashilingam Institute for Home Science and Higher Education for women, for providing me the moral support for the conduct of research work.

I express heartfelt thanks to *Chancellor Sri. T.S.K. Meenakshisundaram*, M.A., M.Phil., Ph.D., Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore, for providing the facilities to conduct the study.

I express my immense gratitude to *Dr. (Mrs.) Premavathy Vijayan*, M.Sc., M.Ed., Dip. Spl. Edn. (U.K.), M.Phil., Ph.D., Former Vice Chancellor, Avinashilingam Institute for home science and Higher Education for women for her constant encouragement throughout the research work.

I express my sincere gratitude to *Dr. (Mrs) V.Bharathi Harishankar* Ph.D., FRSA, Vice Chancellor, Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore, for providing the necessary platform and support for research work.

My sincere thanks to **Dr. (Mrs) S. Kowsalya**, M.Sc., M.Phil., Ph.D., Former Registrar, Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore, for providing the opportunity to do this research.

My sincere thanks to **Dr. (Mrs) H. Indu**, M.Sc(Phy)., M.Ed., SLET(Edn)., Dip in Multimedia., M.Phil(Education)., Ph.D(Education)., M.B.A (Education Management), Registrar, Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore, for providing the opportunity to do this research.

I sincerely thank to **Dr. (Mrs) K. Manimozhi**, M.Sc., B.Ed. M.Phil., Ph.D., Controller of Examination, Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore, for giving suggestions and support to me at all times of need.

I owe deep gratitude to **Dr. G.P. Jeyanthi**, M.Sc., M.Phil., Ph.D., former Director (Research and Consultancy), Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore, for her constant encouragement, support and wishes.

I record my gratefulness to **Dr.(Mrs.) P.Lalitha**, M.Sc., M.Phil., Ph.D., Dean, R&D (i/c), Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore for her timely help, support and encouragement in carrying out the research work.

I am also thankful to **Dr. (Mrs). K. Udaya Chandrika**, M.Sc., M.Phil., Ph.D., Former Dean, School of Physical Sciences and Computational Sciences, for granting the facilities required. I am obliged for their extended support throughout my work.

I sincerely thank **Dr. (Mrs) G. Padmavathi**, M.Sc., M.Phil., Ph.D., Dean, School of Physical Sciences and Computational Sciences, Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore, for providing her constant encouragement, motivation, and suggestions for my research work.

I am thankful to **Dr. (Mrs.) V. Radha**, M.Sc., PGDOR., PGDCA, B.Ed., M.Phil., Ph.D., Professor and Former Head, Department of Computer Science, Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore, for her support and wishes.

My thanks are also due to **Dr. (Mrs.) Vasantha Kalyani David**, M.Sc., M.Phil. (Maths), M.Phil (Comp.Sc.), Ph.D., Former Professor and Head, Department of Computer Science, Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore, for her blessings, support, timely help, encouragement and cooperation rendered towards the completion of this research.

My thanks are also due to **Dr. (Mrs.) S.N. Geethalakshmi**, MCA., M.Phil (Comp.Sc.), Ph.D., Professor and Head, Department of Computer Science, Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore, for her blessings, support, timely help, encouragement and cooperation rendered towards the completion of this research.

My heartfelt and deep sense of gratitude to my beloved supervisor, **Dr. (Mrs.) P. Subashini**, M.C.A., M.Sc., (Applied Psy) M.Phil., Ph.D., Professor, Department of Computer Science., who enlivened and gave a golden opportunity to carry out my research on this topic, which helped me a lot to learn many new things. I am very grateful for her continuous guidance with all the useful discussions and brainstorming sessions, especially during the difficult conceptual development stage of my research. She has always been my thriving force and inspiration. Her unwavering enthusiasm for research kept me constantly engaged and fortified my passion for research.

My heartfelt thanks and deep sense of gratitude extend to **Dr. M. Krishnaveni**, M.Sc., M.Sc., M.Phil., Ph.D., Assistant Professor (SG) Department of Computer Science. Her unwavering encouragement, appreciation, and untiring support have been instrumental throughout this research journey. Her motivation, valuable insights, and constructive suggestions have not only fueled my passion for research but also guided me to explore and gain deep knowledge in the field. Additionally, I express my gratitude for her timely counseling, which has been invaluable in overcoming challenges and making informed decisions. Furthermore, I acknowledge the indispensable role of image processing techniques in annotating the data, leveraging expertise and knowledge to enhance the quality and relevance of the research findings.

I sincerely thank Doctoral Committee expert **Dr.T. Devi, Ph.D., Former Professor and Head, Department of Computer Applications (Retd.)**, Bharathiar University, Coimbatore, for providing constructive ideas and valuable suggestions during the Doctoral Committee meeting that helped me to enhance the work.

I sincerely thank *Dr. A. Saraswathy, M.B.B.S., Ph.D., Assistant Professor*, Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore, for her invaluable assistance in the data annotation process. Her expertise and guidance have played a crucial role in enriching my research endeavors. Her support has significantly contributed to the advancement of my research, and I am deeply grateful for her assistance.

I am thankful to the *Librarians* of Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore to utilize various e-resources available in our university library.

I also thank the technical staff members, who are the helping hands technically to carry out my research work safely and successfully.

I express my sincere and special thanks to *members of the R&D team*, Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore, for their contribution, cooperation, support and timely help in the Research Laboratory throughout the study.

I express my sincere and special thanks to *members of the Centre for Machine Learning and Intelligence team*, Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore, for their contribution, cooperation, support and timely help in the Research Laboratory throughout the study.

I am so thankful to all the students, research scholars, staff members, Department of Computer Science and members of Computer Center, Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore for their support, cooperation, suggestions and wishes.

I would like to express my deep gratitude to, *ISO certified 'Centre for Machine Learning and Intelligence'* sponsored by *Department of Science and Technology* under the scheme of **DST CURIE (AI)** for supporting and providing necessary resources for this research work.

I owe a deep sense of gratitude to reviewers, editors, co-authors, scientists, professors, research forums, publishers, peer-reviewed journals, reputed conferences, workshops and seminars, the research community, resource persons, professionals, research scholars, invited speakers and colleagues for contributing their scientific ideas, knowledge, resources & materials, a highly valuable suggestion which significantly supported me to learn, gain knowledge, and explore my research work to a great extent.

I am pleased to thank all well-wishers who helped me in data collection and rendered their timely support on several occasions throughout the study.

I extend my heartfelt thanks to *my father, mother, grandmother, husband, brother*, and all my family members for their unwavering love, prayers, support, blessings and encouragement throughout this endeavor. I am also grateful to my friends and everyone else who has offered their support and well-wishes along the way. Besides this, I would like to extend my gratitude to one, and all who have knowingly or unknowingly, directly or indirectly help me in the successful completion of this work.

If I have failed to mention anyone who has slipped my memory by mistake, I offer my humble apologies and render my heartfelt thanks.

**JENNYFER SUSAN M B**

## LISTS OF TABLES

TABLE NOS.	TITLES	PAGE NOS.
1.1	Comparison of the Smart Colposcopy with Other Screening Methods	25
2.1	Search String used for the Searching Strategies	39
4.1	Analyzing the Transformed Images to Identify the Suitable Color Space for Specular Reflection Detection.	90
4.2	Comparison of the Existing and the Proposed Method for the Detection of Glare Region	101
4.3	Recognizing SR Without Interfering with the Acetowhite Region	102
4.4	Recognizing Specular Reflection Without Interfering with the White Discharge	103
4.5	Quantitative Evaluation of the Proposed Method and the Existing Method	105
4.6	Quantitative Examination	106
4.7	Implement the Proposed Method utilizing XYZ for Recognition of SR on the Other Medical Images.	107
5.1	Segmentation of Specular Reflection on Smart Colposcopy using Convolutional Neural Networks	122
5.2	Quantitative Evaluations for SR pixel Segmentation on Smart Colposcopy	124
5.3	Quantitative Evaluation for the Segmentation of SR on the Images	135
6.1	Comparison Analysis for the Removal of SR on Smart Colposcopy Images	157
6.2	Comparison Analysis of the Deep Learning Inpainting Model for Inpainting the Smart Colposcopy Images	161
6.3	Quantitative Analysis of the Bilateral Convolutional Inpainting model on Different Masking Ratio	167
7.1	Design of the DenseNet 121 Network	177
7.2	Design of the VGG19 Network	179
7.3	Network Architecture of the EfficienNet	182
7.4	Quantitative Analysis of the Classification of Smart Colposcopy Images	187

## LISTS OF FIGURES

Figure Nos.	TITLE	Page Nos.
1.1	Incidence of Cervical Cancer During the Period of 1990-2019	4
1.2	Screening and Diagnosis Method used for Cervical Cancer	6
1.3	Visual Inspection on Cervical Images	7
1.4	Screening Method Involved in the Precancerous Detection	16
1.5	Cervical Cancer Screening Method in Developed Countries	20
1.6	Screening using Eva System in Kenya	22
1.7	EVA system for screening Cervical Cancer	24
1.8	Grading of Smart colposcopy Images	26
1.9	Specular Reflection on the Cervix Images (Black dotted box) Captured Through the Smart Colposcope Collected from the Kaggle dataset.	27
1.10	Dataset Collection from the Kaggle	32
1.11	Labeled SR Region on the Images	33
2.1	Prisma representation of the study selection	40
3.1	Proposed Research Methodologies	70
4.1	Adaptive Threshold Method for the Identification of specular Reflection	79
4.2	Identification of SR using Adaptive Threshold Method	80
4.3	Chrominance and Luminance-based Threshold Method for Specular Reflection Detection	81
4.4	Identification of specular Reflection using Chrominance and Luminance-based Threshold Methods	82
4.5	Fusion Method for the Identification of Specular Reflection	83
4.6	Identification of specular Reflection using Fusion Methods	84
4.7	Proposed Method for the Identification of Specular Reflection	85
4.8	Proposed Methodology SR Identification using RGB color space	92

<b>Figure Nos.</b>	<b>TITLE</b>	<b>Page Nos.</b>
4.9	Analyzing each Intensity value of the images to identify the SR region	95
4.10	Proposed Methodology for the Detection of Specular Reflection using XYZ color space	97
4.11	Specular Reflection Identification using Intensity based threshold method using XYZ color space	99
4.12	Comparison of performance analysis of the proposed and existing method to identify the SR on the Images	100
4.13	SR detection on the Images without affecting the acetowhite region	101
4.14	SR detection on the images without affecting the white discharge	103
4.15	Applying proposed method on non-glare images	104
5.1	Workflow for segmentation SR Pixels	109
5.2	Creating Binary masked images using the proposed Method.	111
5.3	Flowchart for the Segmentation of Specular Reflection using CNN Model	114
5.4	Network Architecture of the Fully Convolutional Network Model for the Specular Reflection Prediction	116
5.5	SegNet model for SR Segmentation	117
5.6	UNet model for the SR Segmentation	120
5.7	Comparison Analysis for Segmentation of SR	121
5.8	Binary accuracy for SR Pixel Segmentation on the Images using the UNet Model	124
5.9	Intersection of Union for SR pixel Segmentation on the Images using the UNet Model	125
5.10	Dice Coefficient for SR pixels Segmentation on the Images	126
5.11	Loss Calculation for the SR Segmentation on Smart Colposcopy Images using UNet Model	126
5.12	UNet++ Model for the Segmentation of SR .	129

<b>Figure Nos.</b>	<b>TITLE</b>	<b>Page Nos.</b>
5.13	Residual UNet Model for the Segmentation of SR .	130
5.14	Specular Reflection Segmented using the UNet Model	133
5.15	Specular Reflection Segmented using the UNet++ model	134
5.16	Specular reflection segmented using the Residual UNet Model.	134
5.17	Specular Reflection Segment using fine-tuned UNet++ model.	135
5.18	Binary Accuracy for the Prediction of Specular Reflection on Smart Colposcopy Images using Fine-tuned UNet++ Model.	136
5.19	Dice Coefficient for SR Segmentation using Fine-tunedUNet++ Model	137
5.20	Loss Graph for SR Segmentation using Fine-tuned UNet++ Model	137
5.21	IoU for SR Segmentation using Fine-tuned UNet++ Model.	138
6.1	Partial Convolutional Deep Learning Model for Inpainting	143
6.2	SR inpainting using a P.Conv	144
6.3	Generative multicolumn Convolutional model for Inpainting	144
6.4	The SR inpainting using GMCNN	145
6.5	SR inpainting using a DCNN	147
6.6	Outline of the Proposed Method for the identification of SR	148
6.7	Proposed Bilateral Convolutional Inpainting Model for Inpainting the Smart Colposcopy Images	153
6.8	SR Inpainting using BConv	154
6.9	Comparison Evaluation	156
6.10	Specular Reflection Removed on Medical Images using the Proposed B.Conv Model	162
6.11	Implementation of Proposed Bilateral Convolutional Inpainting Model on the Other Digital Images	164
6.12	Qualitative Analysis of the Bilateral Convolutional Inpainting Model on Different Masking Ratio	166

<b>Figure Nos.</b>	<b>TITLE</b>	<b>Page Nos.</b>
6.13	Proposed Bilateral Convolutional inpainting model on the different loss function	170
6.14	Inpainting Digital Images with different loss functions	171
6.15	Inpainting Digital Images with different loss functions	172
7.1	Overview of the Chapter for Improvising the Grading of Smart Colposcopy Images	175
7.2	Workflow for Grading Cervical Cancer	183
7.3	Implementation of Deep Learning Model on Enhanced Smart Colposcopy Images	185
7.4	Grading accuracy of the Smart Colposcopy images using the DenseNet121	188
7.5	Grading Loss calculation of the Smart Colposcopy images using the DenseNet121 model	189
7.6	Grading accuracy of the Smart Colposcopy images using the VGG19 model	190
7.7	Grading Loss value of the Smart Colposcopy images using the VGG19 model	191
7.8	Grading accuracy of the Smart Colposcopy images using Efficient model	193
7.9	Grading loss value of the Smart Colposcopy images using Efficient model	194

## LIST OF ABBREVIATIONS

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BN	Batch Normalization
BCE	Binary Cross Entropy
BCNN	Bilateral Based Convolutional Neural Network
CIN	Cervical intraepithelial neoplasia
COV	Coefficient of Variation
CNN	Convolutional Neural Network
D.CNN	Dilated Convolutional Neural Network
DL	Deep Learning
DFM	Dichromatic Reflection Method
EFTA	European Free Trade Agreement
EU	European Union
FC Layer	Fully Convolutional Layer
FCNN	Fully Convolutional Neural Network
FFNN	feed-forward neural network
FCN	fully convolutional network (FCN)
GMCNN	Generative Multicolumn Convolutional Neural Network
GI	Generator Inpainting
GNN	Generative Neural Network
IoU	Intersection of Union
ML	Machine Learning
MSD	Mean Square Difference
NN	Neural Network
P.Conv	Partial Convolutional Neural Network
(PSNR)	Peak Signal-to-Noise Ratio
QA	Quality assurance
ReLu	Rectified Linear Unit
SE	Squeeze-and-Excitation Blocks
SR	Specular Reflection
SSD	Sum of Squared Difference
SSIM	Structural Similarity Index

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