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.

24/4/2024

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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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JENNYFER SUSAN M B

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LIST OF ABBREVATIONS

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