ACKNOWLEDGEMENT

I begin by praising the Lord Almighty, Without His immense Blessings, this work would not have been possible. During the course of this research, there have been numerous people who have helped me with guidance and inspiration for completing this thesis.

At the outset, I am indebted and would like to express my special appreciation and thanks to my advisor, Professor (Dr.) Wilson Jeberson, Head of Department, Department of Computer Science and Information Technology, SSET, SHIATS, for his continuous encouragement, guidance and support at all stages of this research.

I also owe thanks to Professor (Col.) Gurmit Singh, Department of Computer Science and Information Technology, SHIATS, for his insightful and encouraging comments and suggestions throughout this research.

I wish to acknowledge the efforts of the Chairman and members of my Student Advisory Committee: Dr. Wilson Jeberson, Head of Dept. (Computer Sc. & Information Technology, SHIATS), Dr. Amit Chattree, Head of Dept. (Chemistry) and Associate Dean (Faculty of Science, SHIATS), Dr. Nathaniel Stephen Deputy Registrar (Education, SHIATS) and Dr. Raghav Yadav, Associate Professor, Dept. of Computer Sc. & Information Technology for serving as my committee members and for all their support and suggestions, which have helped improve the quality of my thesis.

I wish to express my sincere gratitude to Professor (Dr.) Rajendra B. Lal, Honourable Vice Chancellor, SHIATS, Professor (Dr.) Newman Fernandes, Director (DDE) & Ex Pro-Vice
Chancellor, SHIATS, Professor (Dr.) P. Ramteke (Dean, P.G Studies), and Professor (Dr.) Imtiyaz (Dean, SSET) for providing adequate facilities during the course of my work.

I would like to thank the administrative and technical staff members of SHIATS who have been kind enough to help in their respective roles.

I would also like to put on record, my appreciation and gratitude to the Government of Goa for relieving me from my college duties to do my research work.

I wish to extend my sincere gratitude to Professor Vivek B. Kamat, Director, Directorate of Technical Education, Government of Goa, Prof. Pradip Kusnur, Deputy Director, Directorate of Technical Education and Prof. Vivek Bellokar, Asst. Director, Directorate of Technical Education, for their immense help.

I must also express my thanks to all my friends and colleagues at the Goa Engineering College who helped me by participating, guiding and motivating me in the course of my research.

A special thanks to my family. I would not have contemplated on this road if it were not for my parents, Ludovina and Pedrito, who instilled within me a love of creative pursuits, science and language, the art of submitting to God’s will, all of which find a place in this thesis. It was under their watchful eye that I gained so much drive and an ability to tackle challenges head on. Words cannot express how grateful I am to my parents-in-law, Carmen and Dr. Antonio, for all the sacrifices that they have made for me. Their prayers and constant encouragement was what sustained me this far.

I also thank my sisters, sister-in-law and their extended families for all their love, inseparable support and prayers.
It would not have been possible to complete my research without the immense help and support of someone who shares my passions. I express my appreciation to my husband, Austin, for his guidance, encouragement, quiet patience, unwavering love and novel ideas towards my research. He spent sleepless nights and was always my support in moments of hindrances. Without his enthusiasm, this work would not have been the same as it is.

I also thank our darling son, little Abner Mark whom God has blessed us with, for his patience throughout my preparation.

Special thanks to the SHIATS guest house management, Ruchika Daniel, Deepti Joshi and Shalini Ansari for the hospitality during my stay at Allahabad.

My thanks also go out to DIAT (Defence Institute of Advanced Technology), Pune, to CRSI (Cryptology Research Society of India) Kolkata, Department of Forensic Science, SHIATS and the Goa State Forensic Science Laboratory.

Last but not the least; I cannot forget my innumerable friends who were of great support and encouragement till date.

I am using this opportunity to express my gratitude to everyone who supported me throughout the course of my research. I am sincerely grateful for their aspiring guidance, invaluable constructive criticism and friendly advice during the research work.

God bless you all abundantly.

Aisha Fernandes