

Acknowledgements

I would like to express my gratitude to my supervisor, Prof. Dhruva Kr. Bhattacharyya, whose expertise, understanding, and patience added considerably to my doctoral research work experience at Tezpur University. I appreciate his vast knowledge and skill in many areas (e.g., Network Security, Bioinformatics, Data Mining Techniques and Cryptography) and marvel at his ability to deal with multiple topics at the same time. This thesis is a result of his helpful guidance, encouragement and supervision received by me for which I am grateful.

I would also like to express my appreciation to the other members of my doctoral research committee, Prof. Malay Ananda Dutta and Dr. Bhogeswar Borah for the assistance they provided at all levels of my research. Their input was valuable in steering me in the right direction and keeping me focussed.

I would like to thank all the faculty members for their constructive suggestions, with special mention to Prof. Shyamanta M. Hazarika and Prof. Utpal Sharma for their encouragement and motivation from time to time. A very special thank you to Prof. Jugal Kr. Kalita of University of Colorado, USA, for his valuable inputs during the course of my research work. A word of thanks also goes out to my friends, especially Dr. Monowar H. Bhuyan, Hasin A. Ahmed and Nazrul Hoque for their help and support rendered to me.

I would also like to thank my family for the support they provided me throughout my entire life and in particular, I must acknowledge my wife, Afroza and children Nazia and Naved for encouraging me to devote time for research and complete the thesis during the twilight years of my career.

Last but not least I thank the Almighty for everything.