

Acknowledgement

I would not have been able to complete this degree without the support of numerous people and I wish to acknowledge their support. First of all I would like to express my sincerest gratitude towards my supervisor Dr. M. V. Satish Kumar, for taking a chance on me and giving me freedom in my research and for his consistent encouragement that I have received throughout the research work. Under his guidance, I successfully overcame many difficulties and learned a lot. He always kept faith in me and provided the right direction whenever I needed it the most. At the same time, his constructive criticism and constant vigilance inspired me to perform me better. My deep gratitude goes to him for all his dedication and steadiness during the writing of the thesis. I whole-heartedly thank him for everything.

I would also like to thank the Head, Department of MBBT, Tezpur University, and my Doctoral Committee members - Prof. S.K. Ray, Dr. R. Mukhopadhyay and Dr. S. Dasgupta, Department of MBBT, Tezpur University, for their insight, comments, and valuable suggestions during my Ph.D. tenure.

I would like to acknowledge all other faculty members in the Department of MBBT, Tezpur University for their help and encouragement and the non-teaching staffs of the Department for their technical support. I would like to take this opportunity to thank Tezpur University for providing me with the state of the art infrastructure and facilities for advanced research. I would

like to acknowledge the financial support provided by Tezpur University and DBT.

No word would be enough for expressing my gratitude towards lab mates in MOMO Lab: Himakshi, Airy and Sushmita, for their immense help and support. Heartfelt thanks to all the project students (Akash, Ankita, Rajkalyan, Ravi, Utpal, Karabi, Pooja, Sunanda, Vivek, Barsha, Zeba and Pundarikaksha) for their help and support.

I would like to express my gratitude to my friends Kamalakshi, Taufiq, Kristi, Chayanika, Pitambar and Anindhya for supporting me in many occasions during this work and for all the time we spent together.

Special thanks to my little sister Monalisa thanks for keeping me laughing!!!

Above ground, my biggest thanks of all goes to my mom and dad for their fulltime support and unconditional love and for giving me a meaningful life. Your value to me only grows with age. Love you both. And finally, I acknowledge my best friend, Bikash, who blessed me with a life full of joy.

Mary Dutta...