Acknowledgements

Sometimes our light goes out but is blown into flame by another human being
Each of us owes deepest thanks to those who have rekindled this light

—Albert Schweitzer

Firstly, I seek the blessings of his Holiness Jagadguru Sri Shivarathri Deshikendra Mahaswamji of Jagadguru Sri Veerasimhasana mutt, Suttur. It is my immense pleasure to express my sincere thanks and deep sense of gratitude to my supervisor Dr B H Shekar for his valuable interactions, meticulous guidance and inspiration to explore new ideas in my research endeavour. His motivation, eagerness to impart knowledge and untiring efforts helped me to reach the desired goal of doctoral work. I owe him special thanks for involving me in DST-RFBR project and providing the exposure to the research activities in Lomonosov Moscow State University, Russia.

I extend my thanks to Dr Manjaiah D H, Dr Doreswamy and Dr H L Shashirekha, Department of Post-Graduate and Research in Computer Science, Mangalore University, Mangalore, for their constant support and encouragement during my doctoral work.

I whole heartedly thank Dr B G Sangameshwara, Principal, Sri Jayachamaram-jendra College of Engineering, Mysore, for all his support and encouragement in completion of my doctoral work. Without his help at the right time, I would have not completed my thesis successfully. My special thanks to Dr T N Nagabhushan, Principal, JSSIT, Noida, for his constant encouragement and motivation towards completion of my doctoral work. I thank my colleagues Dr M P Pushpalatha, Dr Chenamma, Mrs Shashikala B M, Mrs Harshitha C J, Mr Santhosh C S, Mr Siddesh and all others from Department of M C A, SJCE, Mysore, for their kind support and encouragement to carry out my research work. I also thank all the colleagues from Department of Computer Science and Engineering and Department of Information Science and Engineering, SJCE, Mysore for their encouraging words towards me. I extend my thanks to all the administrative people of my college for their support to carry out my research successfully.
I express my sincere gratitude to my beloved teachers Prof P Nagabhushan, Prof G Hemanthkumar, Dr Lalitha Rangarajan, Prof D S Guru and Mrs Hamsaveni from University of Mysore, who all taught me Computer Science and showed the path to imbibe the research within me. Their kind support and encouragement made me to grow to this heights today. I also thank all my teachers who directly or indirectly have taught me all good things, starting from my kindergarten to doctoral work.

I recollect the help and support rendered by my fellow research scholars, Dr Sharmila Kumari and Dr Thippeswamy during my research tenure in the Department of Post-graduate and Research in Computer Science, Mangalore University, Mangalore. I should remember the help of Mr Raghuram Holla and Mr Harivmod who are ready reckoner of MATLAB and LaTeX and helped to resolve many of the hurdles in programming and documentation. I extend my thanks to Mrs Bharathi Pilar who comes with smiling face and brings enthusiasm to the research lab. My special thanks to Mr Hemanth, for all his care that he showed on me during my research tenure in the department. I also would like to thank all my junior research scholars for their direct and indirect help and also made me to feel un-tired during my research period.

I cannot forget the love and affection by the family members of my supervisor. I thank Mrs Geetha Shekar for her hospitality, Baby Varsha for all her sweet words and Pooja for her lovely smile which helped me to forget my worries during my stay in the university. My special thanks to Dr H L Shashirekha and her family for the concern and family affection they showered on me and whose presence in the university brought huge confidence in me during my research tenure and also made my stay comfortable in the university.

No lamp can glow without external source of energy. I would proudly say, for me to glow with success, the mere source of energy is my husband Mr Manjappa. His love, prayers, patience, wishes and moral support made me to think differently and big in life and move towards achieving it. He always stood behind my success in every endeavour. I should recollect the other source of energy for my success.
is the blessings of my parents R Krishna and R K Jaya, who always prayed the almighty for the benefit of mine and showed me the right path in life to succeed, in spite of their difficulties. They had great confidence in me and blessed me to reach this heights today. I am lucky enough to enjoy the other set of parental wishes and blessings from my in-laws Mr Sanamallappa and Mrs Eramma, who continuously encouraged me in all aspects of my life. I should thank my sister Mrs Nalina Natraj, brother Mr R K Ramachandra for all their kind wishes, support and encouragement since my childhood.

Friends have made me rich by giving me the gift of hope, by being there when I needed them and by giving me a shove in the right direction when I hesitated. It is my pleasure to express heartfelt thanks to all my friends Mrs Anupama Raje Urs, Mrs Geetha Kiran, Dr Geetha Nagaraj, Mrs Shilpa Sunil, Mrs Prathiba, Mrs Mynavathi and their family who helped me directly or indirectly to complete my research work. My special thanks to my daughterly friend Mrs Manjula Satish from USA for her regular check of my progress, inspiring me and kept me lively with her lovely words, wishes and prayers.

I also extend my thanks to the support from Mr Lingaraju, Mrs Sharmila and Mr Boja and all the office staff members of this department. I thank the administrative authorities of the Mangalore university for having permitted me to work towards my doctoral degree in this esteemed university. I thank the concerned staff members in the administrative office for their smooth process of the procedures during my doctoral work.

It will be endless to list each and every friend and relative of mine who have directly or indirectly wished my success in my endeavour. I thank each and every person responsible to complete this venture successfully.

—R K Bharathi