ACKNOWLEDGEMENTS

First of all I would like to record my gratitude to the Almighty for guiding me with a spiritual touch and blessing me with good health and necessary intellect to pursue the noble goal of furthering my teaching and research related qualifications.

More specifically, I would like to profusely thank Prof. Mushtaq Ahmad Peer, the Founding Head of the Computer Science Department at the University of Kashmir (presently on deputation to the Govt. of J&K, as Chairman, B.O.P.E.E.), for countless ways in which he has nurtured my talent, encouraged my participation in departmental activities, teaching and research, and, for his constant hand-holding with a consistently positive and optimistic mindset. Indeed, it is this uniquely encouraging guidance from him, which has resulted in a lot of positive developments in my career including the research work leading to the submission of this final thesis. I owe Prof. Peer a huge debt of gratitude for always providing the facilities needed by me as a teacher and a research scholar in the department.

I would like to express my heartfelt gratitude to some of the senior-most faculty members at the University of Kashmir, including Prof. Nissar Ahmad Shah, Prof. A.R. Yousuf, Prof S.Fayyaz Ahmad and Prof. M. Sahaf for their constant encouragement and moral support during my pursuit of the Ph.D. programme. In addition to the above individuals, I would also like to express my heartfelt thanks to key faculty members from universities outside Kashmir, who contributed to my research work indirectly via ideas, thoughts and discussions during their visits here or during my interactions with them on other occasions. In this context I would like to thank Prof. A.Q. Ansari from Jamia Millia Islamia, Prof. Hardeep Singh from Guru Nanak Dev University, Prof. M. Salim Beg, Prof. Bukhari and Prof. M.R. Abdi from A.M.U., and, Prof. Anshul Kumar and Prof. Huzur Saran from IIT Delhi.

Several teaching & non-teaching staff members from our department have contributed positively to the environment which made a lot of my research work possible and enjoyable. I want to record my gratitude to the present H.O.D, Dr. S.M.K Quadri, my colleagues Dr. Rana Hashmy, Sajad Khan, Manzoor Chachoo and laboratory staff members Shabir Ahmad, Hafeez Bhat and Farooq Bhat for helping me to the fullest extent in their respective capacities whenever the need arose.

Lastly, but most importantly, I want to express my reverence and gratitude towards my family members which include my mother, wife and children who demonstrated great patience on the days when I spent time away from them. Without their support and cooperation, none of this would have been possible.

Javed Parvez