Acknowledgements

I am very much indebted and wish to express my sincere thanks to my supervisors Prof. M. Qasim Rafiq, Professor and Chairman of Department of Computer Engineering and Dr. Omar Farooq, Reader, Department of Electronics Engineering, A.M.U., Aligarh. No amount of words would be sufficient to communicate my deep sense of gratitude to my guide Prof. M. Qasim Rafiq, who motivated me to work in the area of Parallel Processing right from the beginning of my post graduate studies. He has been a continuous source of encouragement and has given his erudite guidance and advice with constant keen interest at every stage of this work. I am grateful to him for sparing his valuable time in spite of his busy schedule in the Department and for all the kindness he has shown towards me throughout the period of my research work.

I extend my gratitude to Dr. Omar Farooq, my co-supervisor with all my hearts for his invaluable guidance, constructive suggestions, constant help and inspiration during the course of this work. He has all along been easily and friendly approachable to me in the hour of need.

I am thankful to Prof. Shamim Ahmad, Principal, University Women’s Polytechnic for permitting me to complete this work.

I am very much obliged to my colleagues in University Women’s Polytechnic, A.M.U., Aligarh, especially to Mr. Jahangir Alam, Mr. M. Ajmal Kafeel and Mr. Misbaur-Rehman Siddiqui, for providing me all the support and sharing my responsibilities in the department during the last phase of this research. Without their support, it would not have been possible for me to complete this work within the time frame.
I am also grateful to another colleague Mr. Mohd. Hanzala, for doing pains-taking job during the write-up phase of this thesis.

I have pleasure in expressing my thanks to my uncle Mr. Irfan Ali, IIT, Roorkee, for his kind help to provide me research material from the Library of IIT, Roorkee, many a times whenever I was in need.

I take this opportunity to thank and acknowledge to all the staff members of the Department of Computer Engineering for providing me a congenial environment to complete this work.

Last, but not the least, I am very much grateful to my mother and all the members of my family for their moral support and care that they shown towards me during the period of this work.

(ABDUS SAMAD)