

ACKNOWLEDGEMENTS

First and foremost, I must bow in great reverence to almighty God *Baba Vishwanath*, the Most Gracious the Most Merciful, whose bounteous blessings enabled me to accomplish this thesis. My warmest and deepest appreciation should definitely be to my parents, my wife, my brothers and my sisters for their full support, enduring encouragement and care, which I will always appreciate in my heart.

I would like to express my sincere gratitude to my supervisor, Dr. Rajeev Srivastava, Department of Computer Science and Engineering, for his invaluable guidance and consistent support without which this thesis would not be possible. I deeply thank him for his precious time and innumerable efforts spent on discussing my work and reviewing my papers. His fruitful discussions and valuable suggestions provided me with creative inspiration throughout my work.

I would also like to express my deepest sense of gratitude to Prof. R.B. Mishra and the members of the research committee: Dr. S.K Singh, and Dr. B. Biswas, Department of Computer Science and Engineering, Prof. D. N. Vishwakarma, Department of Electrical Engineering, for their valuable comments and suggestions during my course of study.

My memory of study period at IIT-BHU can never be complete without mentioning my fellow research scholars. Special thanks to Mr. Shailendra Tiwari, Dr. Sudhakar Tripathi, Mr. Nagendra Pratap Singh, Mr. Rajesh Kumar, Mr. Vibhav Prakash and Mr. Sanjay Kumar Singh for their great help and cooperation. I thank Dr. Subodh Srivastava Mr. R. B. Yadav, Mr. Alok Kushwaha and Mr. Ali Abidi.

I extend special thanks to the non-teaching staff in the Department, particularly, Mr. R. P. Khare, Mr. A. N. Yadav, Mr. Rajendra Kumar, Mr. Bharat Pandey and Mr. Dinesh Tiwari for their consistent support.

My acknowledgements would not be complete unless I express my heartfelt gratitude to my wife Mrs. Kiran for her support, encouragement, and commitment throughout my study and to my little sweetheart Mr. Akrist for bringing me joy and inspiration every day and dealing with all ups and downs on their own during my research period.

Arvind Kumar Tiwari

PhD. Research Scholar,
Enroll. No. 12600EN008
Dept. of Computer Science and
Engineering, IIT (BHU),
Varanasi (India).