Acknowledgements

I take this opportunity to express my heartfelt gratitude to those who have unconditionally supported me during the period of my research. First of all, I bow my head before God, the Almighty for the countless showers of blessings throughout my life.

I am deeply indebted to my supervising guide, Dr Babu Anto P for the motivation, encouragement and support given to me in all the spheres and activities of the research. He has been a guide, and then gone through the role of a friend and a philosopher to accomplish the role of a teacher. I feel extremely grateful for his keen observation and critical evaluation on each and every part of this thesis.

My sincere gratitude to Dr Raju G, Head of the Department, who has provided the research materials, suggested the approaches and critically commented on this thesis. My thanks are also due to Prof Narayanan N K who provided the database and encouraged me with fruitful discussions.

I am thankful to Dr Fr Harshajan Pazhayattil, OFM Cap, Manager, Dr Shaijan Paul, Principal and Dr Fr Jose J Nedumpara, CMI, Retd. Principal, Prajyoti Niketan College, Pudukad, who permitted me to carry out the research under the Faculty Development Programme of the University Grants Commission.

I am grateful to Dr Lajish V L, HoD, Computer Science, University of Calicut who helped me to step into the field of research. I am thankful to Dr S Esakkirajan, Asst. Professor and Mr T Veerakumar, Asst. Professor, PSG College of Technology, Coimbatore, and Mr Sabu Sebastian, HOD, Mathematics, Nirmalagiri College, Koothuparamba for the assistance rendered during the period of research. I am particularly thankful to Ms Bindu S Moni, Asst. Professor, Amal Jyothi College of Engineering, Kanjirapally and Mr Renju John for providing the character database used in their study.
I am thankful to Dr Sajo Jose, Asst. Professor, St Josephs’ College, Irinjalakuda and Ms Jeetha Johny, Asst. Professor, Prajyoti Niketan College, Pudukad for proof reading the thesis. I am grateful to my fellow research scholars and members of the department who enlivened the whole research endeavour.

Finally, I owe my thanks to my family members for supporting me in many ways to complete this research work.

Binu P Chacko