ACKNOWLEDGEMENTS

I wish to express my deep sense of gratitude and indebtedness to my research guide Dr. Karbhari V. Kale, (Professor) for his meticulous guidance, valuable discussions and idealistic suggestions during my study. He support, help and encourage me in all ways. I learn a lot of principles and would like to have company with him always. Where I am today, is only due to his cooperation and guidance. I thanks to Mrs. Pradnya K. Kale and family members for their support and encouragement.

I would like to thank all the people all over the world who contribute their valuable software and research ideas to the large pool of public domain. This work is almost based on such tools, which have been designed, implemented and supports by bright minds.
I would like to thanks, Dr. A G Murugkar, Dr. Ramesh R. Manza, Dr. V. M. Thakare, Dr. Deepak Dhote, Prof. S C. Mehrotra, for their valuable guidance.

I specially thank to Ganesh R. Manza, Dr. Ahosk Gaikwad, Shivanand Gormale, Dr. Rakesh Ramteke, Mukta Dhope Swarkar, Vikas Humbe, Mahendra Dhore, Dr. Prapti Deshmukh, Ganesh Magar, Arvind Bhalerao, Dr. Chitra Atole, Dr. Bharti Gawali, Mansi Baheti, Avinash and Arjun for their full supports and cooperation during the preparation of this thesis.
I would like to thank to all my colleague of Prof. K. V. Kale’s research group and all the teaching and non-teaching staff of the Department of Computer Science and Information Technology, Dr. Babasaheb Ambedkar Marathwada University, Aurangabad as well as Department of Computer Science, SGB Amravati University, Amravati for their cooperation, support and constant inspiration during my work.
I thank the university Authorities for their supports and proper communication.
At last, but not least, I extend my thanks to those who motivate me during my work, my brother Sandip S. Jambhorkar, Prof. Uday S. Kale, Sau. Sushama U. Kale, Pournima, Maitryee and other family members for their love, affection and constant encouragements.

Thank you all.

Sagar S Jambhorkar