

# Acknowledgement

---

*With a deep faith in the super-natural power, first and foremost, I thank the Almighty to steer me through this entire process of study and lend me the confidence to believe in myself during all the moments.*

*My work place – Department of Computer Science and Engineering has always been a temple of knowledge as well as a place of great encouragement and fulfillment for me. At this moment of development, I bow down to this “Gnyaan Jannani” and “Karma Bhoomi” of mine.*

*It is indeed the privilege to express gratitude towards Prof. B. S. Parekh, my Guide, for considering me as his Research student and encouraging me to take up this subject of research. He has been the constant source of support and guidance throughout this study. His continuous review and critical comments at each moment of progress has aided this work to completion. I will always remain highly obliged to him.*

*I would also like to express my gratitude towards my co-guide Dr. D. P. Patel for his innovative suggestions of considering various mathematical approaches for applications in bioinformatics. His encouragement has helped me to complete this work successfully.*

*I am extremely thankful to Prof. P. R. Bhavsar, the Head of my department for his support and co-operation right from the beginning to the end of this study. His silent and strong assistance in providing me the environment to work has helped me in completing this work.*

*I would like to convey my earnest gratitude to Prof. H. J. Patel, for his constant motivation and pursuance in taking up research studies. His consistent support and unmentioned sustaining efforts for my progress will always remain a debt.*

*My parents, whose hearty blessings, unconditional love, continuous encouragement, and unfailing support during assorted challenges of life, have always been my constant source of aspiration, inspiration and support. They are my role models.*

*Whatever I have achieved in my life, I owe all that to them. Their debt will always remain unpaid in this life and all the lives ahead, if any.*

*My sisters Namrata, Dipti and Preeti, have always been and will always remain my backbone as well as my pride. Without their warmth, love and consistent support, this work would have been unachievable.*

*The sweet smiles and mischievous gestures of my little darling dolls Niharika, Nimayi and Dhruvika have always added meaning and purpose to my life. They spur me constantly, to keep smiling and be happy. My heartfelt thanks also go to Aashish, Siddhartha and my entire extended family for their moral support during this study.*

*At this moment of expression of gratitude, I cannot resist to mention my students who have always propelled me to improve my technical edge, through their curious questions, which probed and pursued me to this research studies. Whenever I encounter a new topic of study, I think of, how I would make my students, understand the concept. This, in turn, has always helped me clarify my concepts better. I take this opportunity to thank all of them.*

*I convey my heartfelt thanks to all my colleagues, teaching as well as non-teaching staff members for providing their cooperation and every type of assistance, during this work.*

*I would like to express particular gratitude to Dr. V. D. Pathak for encouraging and guiding me during various phases of my research work. My special thanks to Dr. C. G. Joshi, Dr. P.G. Koringa and their entire staff of OME Research Centre, AAU, to help me understand fundamental concepts of DNA sequencing, letting me observe process of pyrosequencing on the seldom available Roche GS-FLX sequencer and permitting me to work on supercomputer used for DNA sequencing and analysis. Their timely guidance, suggestions and interest in my work has propelled it to completion.*

*Finally, I would like to acknowledge the support of all those people, who directly or indirectly have been an integral part of my research studies and work.*

**Mamta Chandraprakash Padole**