Acknowledgment

My complete PhD program has been a pilgrimage for me. A PhD program is like deciding to travel a path that is un-travelled and un-known, atleast less-travelled. It has been a demonstration for me, how GOD helps and directs if one is completely surrendered and ready to fight against every unknown hurdles. From where to begin, how to begin, whom to carry with as a supervisor or PhD guide, how to introduce our own creativity - all the related questions and confusions are hurdles. But, the understanding that GOD is near to me; HE loves me; not just HE is with me, HE works for me - changes the focus from the query or confusion or hurdle to the joy of being able to ‘feel’ the touch of HIS love. It has been my experience throughout that whenever, whatsoever, howsoever either guidance or caution or appreciation or indifference or any other type of psychological needs or even material needs are there for me; they have been always passed on to me by HIM. May be, when HE sends I have not understood at the same time. Thank you GOD, for constantly loving me, caring me! Not just the bit of creativity; definitely the creative idea is GOD-sent, as not a product of mechanical thought process; every utterance of thought or written word has been GOD-sent. But, then GOD-sent has to be the best. Off-course it has to be best; but not according to what HE can think or write but best according to what my limited qualities, abilities, capacities and hard-work can perceive. The PhD program has been definitely a voyage, because the overall experience has make me understand you better.

Starting form decision of joining for a PhD program, based on the philosophy that material success is not a hurdle but can be an instrument to serve GOD Rev. DADAJI, you have remained with me. GOD loves and loved; but DADAJI, you made me understand that. GOD knows better for me - what is good and what is not. HE gives me everything for my own development - whether it be circumstances or relatives or material needs. Whatever is given to me is a gift or prasad from HIM. With that I am supposed to just act on them without complain or condemn or disregard. DADAJI, this is the understanding passed on to me through your overflow of love for me. DADAJI, the trikal-sandhya given by you has been regular reminder of the presence of GOD within me and working for me. Thank you DADAJI! And, my gratefulness to you will not just find in words but also in deeds. That is my promise.

The understanding of philosophy has a power, but it is not the whole. It is very difficult to
overcome the force of mechanical habits though understanding is there - has been my experience. So, continuously being with that philosophy needs continuous motivation, regular reminder. Rev. DIDIJI, you have been a living example for us to display that philosophy is to live and just to utter. DIDIJI, your simple slogans; such as, ’change of work is a refreshment’, ’as much is possible, as much I will do and not I shall do, as much is possible’ (exactly in Gujarati - ’Jetlu kariye etlu thay, nahi ke thay etlu kariye’) and others are not just has worked for empowerment of spiritual journey but also for the empowerment of our material life and success. Thank yoy DIDIJI, for being a constant source of inspiration by setting an example for me! Also, thanks to the divine family of DADAJI; who has been continuously with me withstanding my limitations. Specifically, I thank Dr. Jitubhai for his unbreakable faith in my abilities. Also, thank to Hardipbhai, Apurvbhai, Ashwinbhai, Amitbhai and many others for being with me, sharing my emotions.

Though GOD sends; HE sends through those around me, who love me, care me, keep concern for me, capable of and willing to pass on. Thanks to all those who have been instrumental in sending GODs gifts to me. The overall environment at DAIICT has been always encouraging and motivating. The focus on self learning, depth of work than superficial work, scholastic attitude and regular discussions with the faculties and co-mates have imparted a lot; without having formal teaching. Specifically, the discussions with Prof. V. P. Sinha and Sumanda have instilled lot in me. The discussions were ranging from technical to philosophy; from politics to day-by-day simple experiences. On one side, I was offered hard-core concepts of maths and the research area by Pro. S.C. Sahasrabudhe, Prof. Samaresh Chaterajee, Prof. Manish Gupta, Prof. Vijay Chakka and others. On the other side, there were professors like Prof. V.P. Sinha, Prof. Sumanda; who offered an assurance and confidence that research or concepts are not that difficult and I can understand, achieve it. I thank Prof. Hemant Patil for giving a IEEE special issue on Speech Processing to me. That has been first interaction to the research articles. The collection of quality research articles have serve to put before me an ideal research work. I thank Prof. Manish Gupta for passing on a love for non-triviality and being always friendly to me. I thank Prof. M. V. Joshi for being an example of hardwork and perfection for me. I thank my supervisor and thesis guide Prof. Sumanda. Relationship with others at DAIICT may be an accident, but relationship with Sumanda has been definitely GOD-sent. I was always sure of his love, concern and good wishes for me. Many times, I have been too much theoretical and in heavenly fantasy. I understand that the role given to Sumanda was to make me understand reality and bring down me on earth. And, through his pragmatic wisdom he definitely did it for me. Our discussions were full of extending my understanding of the world. Beyond all these, he has been a very humble person to me, allowing me great amount of freedom. He helped me, guided me such that my own originality is not ruined but enhanced by his presence. Being closer to me, he had to withstand all my limitations and he did that without reducing a bit of love for me. Thank you ’Da! A special thank to the members of
synopsis committee. From that, Prof. Sanjay Srivastav for his discussion that has made me realize the limitations of numbers and I was inspired for further results through mathematical proofs; instead just numbers. I thank Prof. Ashok Amin, for making me able to see my habitual mistakes in writing patterns. I thank my external jury members, Prof. Aurobindo Routray and Prof. W. Skarbek for their inspiring reviews and guidance that empowered the thesis.

I can not forget to thank members of my tea-club including many; some of them are, Pratik, Ratnik, Guneshwar, Aaditya, Jignesh Bhavasar, Ghanashyam, Purushotthaman, Jignesh Bhatt, Naveen, Aashish, Gitam, Purvi, Rupsa for sharing my happiness, anger and sorrows. I also thank Aaditya, Pratik and Krishnagopal for sharing their math expertise. I thank Jignesh Bhatt, Guneshwar and Milind for sharing their technical expertise.

I thank the help-desk members for always being ready to offer their support. I thank the persons in administration, library, house-keeping, security for their co-operation. Thanks to all my neighbours, dears and nears for their co-operation. Thanks also to those who have always co-operated but due to space limitations I can not name.

Finally, I have not forgotten my family members - my parents, wife, brother, sister, son, nephew, niece and the other members. But, they were not different from me. I always felt them to be sailing through a same boat with me. GOD was one step ahead of me, and they were all together with me. So, just to say that in acknowledgment process also they are with me, and all previous feeling of gratefulness and saying thanks in response is conveyed by all of us together!