Acknowledgments

It has been an incredible journey for the last several years towards learning, discovering, re-discovering and even re-inventing [...] while simultaneously encountering successes and failures along the way. The beauty of interdisciplinary research has enthralled me, so are its challenges.

Firstly, I would like to wholeheartedly thank my advisor Prof. Kesav V. Nori, for his valuable guidance throughout. Loved his intellectual insights with humour, very rare to be associated with someone like him, who is critically sound and fundamentally rooted. It gives me immense pleasure to thank Dr. Raghu Reddy, Head of SERC who has given technical feedback and primarily for his pragmatic support. Dr. Venkatesh Choppella for his valuable inputs and my colleagues Naveen Kulkarni, Kirti, Sai Krishna, Amulya (Gita) and all the lab members. Sai Gollapudi (Sai garu) requires a special mention for his valuable guidance not just for research but in general about life :) and Lalit bringing energy to the lab. Team from Virtual Labs for being so nice with me. Thanks to Pushpalatha garu of SERC for processing all my travel grants quickly.

Special thanks to Prof. Sridhar Iyer and Prof. Kannan Moudgalya and friends from IIT Bombay. Sandhya ma’am of IIIT-Hyderabad has always been supportive. The entire fraternity of IIIT-Hyderabad including Prof. P.J. Narayanan, Dr. Vasudeva Varma, Prof. Jayanthy Sivaswamy, Prof. Jawahar, Prof. Rajeev Sangal, Prof. Kamal Karlapalem who have supported me quite well during this journey and Prof. T.V Prabhakar for his moral support.

I was lucky enough to travel to six international conferences during my PhD and to get extensive feedback on my work both from software engineering and educational technologies communities. I would like to particularly thank Professors David Notkin for his inspiring stories, Neno [Nenad Medvidovic], Andy, Andre, Tom, Jo Atlee, Laurie Williams, Helen Sharp, Margarett Brunette and friends Reid Holmes, Fritz, Michalis... and the entire software engineering community. Prof. Pankaj Jalote, Dr. Srinivas Padmanabhi and the entire Indian Software Engineering (ISEC) community. Prof. Kinshuk for his valuable time for reviewing my work, Prof. Demetrios G. Sampson for his great suggestions for journal papers and Prof. Nian-Shing Chen for his boost up on everything. Many other well-wishers and friends from educational technologies community like Vincent, Panagiotis Zervas, Imran, Carlo Giovannela, Sabina, Jelena and others for their inputs and feedback on my
thesis. Especially the sessions with these people role playing as my committee members has triggered several research directions beyond my thesis.

Dr. Dan Hyung Lee, Head of Working Group 4 in ISO/SC7 [Software and Systems Engineering Standards] for nominating me as Co-Editor of two international standards in software product lines. His confidence in me has inspired me to continue my research in software product lines. Prof. Rajat Moona for allowing me to be Co-Editor from Bureau of Indian Standards.

Special thanks to Prof. TV. Prabhakar, Dr. Venkatesh Choppella and Prof. Sanjay Goel for their valuable suggestions as thesis committee members; especially for supporting both the directions of software engineering and educational technologies in my thesis.

Harshit Harchani, Shivam Khandelwal, my BTP students and Adithya Chimalakonda for their immense help in supporting the development of technologies as part of this thesis.

I would also like to thank Shri YSK Seshu Kumar, Joint Secretary and Deputy General of National Literacy Mission Authority and Chairman of CBSE. Sanukta Mudgal, Dr. Sayanna, SRC Hyderabad, A. Satyanarayana Reddy, Director of Adult Education, Telangana and Director, TSLMA for hosting the software generated from this thesis on official websites of Government of Telangana and facilitating field visit to villages.

Finally and most importantly, I would like to thank my parents and brother for their unprecedented love and support throughout the thesis (I cannot express my thanks through words here).

Oh My God!!! Many thanks to God!!!

More by divine intervention than by choice, I have also researched “On the nature of relationships” for around three years during my PhD, which has been a great learning as well. I would like to wholeheartedly thank my advisor once again for his immense support during these challenging times, without which I would not be here today!