ACKNOWLEDGEMENTS

First of all, I would like to thank my advisor Professor Dr. T S B. Sudarshan for his advice and support throughout my Ph. D study. His open mindedness has given me great freedom in exploring many challenging research topics and has made this thesis possible. I would like to thank my co-advisor, Dr. B. S. Adiga for his insightful guidance in the areas of Digital Image Processing and research methodologies. He was also instrumental in providing intellectual support from the beginning to the end of my research work. I thank my Doctoral advisory committee members Professor Dr. KVV Murthy, Dr. Shikha Tripathi, Convener, Dr. K. V. Nagaraj, Department of Mathematics, and Dr. A. Srinivas, Professor and Head, Dept. of ECE, PESIT, Bangalore for their inspiring and constructive discussions to set a high threshold for this thesis.

Special thanks to Mrs. Dhanalakshmi Chandrasekaran, Chief Sonographer, Sri Jayadeva Institute of Cardiovascular Sciences and Research, Bangalore, India for conducting meticulous echocardiography training and necessary echo image collection which, according to me, is the most important data required for this research work. Without her help, it would have been almost impossible to clinically evaluate and validate the echo analysis system. My sincere gratitude to Dr. C. N. Manjunath, Director, Sri Jayadeva Institute of Cardiovascular Sciences and Research, Bangalore, India for his magnanimity in granting permission to associate with the hospital for this research.

There are number of people who have directly or indirectly helped to carry out this research under Amrita Vishwa Vidyapeetham University and in particular I am indebted to Dr. N. S. Pandian, Dean, PG Programmes, ASE, Coimbatore, Dr. B. N. Nagaraj, Dean, Academics, ASE, Bangalore, and Dr. S. G. Rakesh, Associate Dean, ASE, Bangalore.

I also would like to thank my Principal Dr. K. R. Suresh and all my colleagues in the Department of Computer Science and Engineering, Bangalore Institute of Technology for their sustained encouragement and support throughout the research work.
In countless ways I have received constant love and affection from my family too throughout my work and appreciation to their patience! Many thanks to all those who have directly or indirectly helped me for this research work.

S. NANDAGOPALAN