Acknowledgments

I am very grateful to my advisors, Prof. Ryung S. Kim, for spending the great deal of time on advising me. His help and guidance are invaluable. I would also like to thank my co-advisor, Prof. Jayson D. Wilbur, for listening to me patiently and providing important comments on this project. I have benefited greatly from studying Applied Statistics at Worcester Polytechnic Institute. Prof. Joseph D. Petruccelli and Prof. Balgobin Nandram's teaching and their help on my job hunting are highly appreciated. Finally, I would like to thank my family and my friends for their support and encouragement.