Acknowledgements

My heartfelt thanks to my thesis advisor Dr. Andrzej Drygajlo who gave me the opportunity to work on the fascinating topic of forensic speaker recognition. His kindness, dedication, hardwork and attention to detail have been a great inspiration to me. I would particularly like to thank him for all his help in patiently and carefully correcting this thesis manuscript. I am also grateful to the members of my jury (Prof. Pierre Margot, Dr. Philip Rose and Prof. Jean-Phillippe Thiran) for reviewing my work and for their valuable comments and to Prof. Daniel Mlynek for acting as the president of the jury.

My most special thanks to my parents and my brother. Mummy and Daddy, I thank you for believing in me and helping me believe in myself; for giving me the dream and keeping the dream alive against all odds. Aju, you are my not-so-little brother, sounding board, counselor and best friend all rolled into one. Thank you for always being there.

My deepest gratitude goes to my lovely fiancée. Thank you Faye, for coming into my life, for all the love and support you have given me and for seeing this thesis through with me. This thesis would not have taken the shape it has now, without your help.

I would also like to say a big 'thank you' to all my friends and colleagues for their friendship and support that has seen me through the highs and lows of these last four years. In particular, I thank:

- Guillermo for being the best friend I have had these four years and for our lunch discussions on life, love and what the thesis should not be.
- My officemates Plamen, Kris and Jonas who have made my years at the laboratory an enjoyable and unforgettable experience: Plamen for his unique sense of humour and his advice and help; Kris and Jonas for their stimulating discussions and their sometimes radically different viewpoints on life.
- The Institut de Police Scientifique (and in particular Prof. Pierre Margot and Prof. Christophe Champod), at the University of Lausanne for kindly allowing me to work with them and to discover the world of forensic science.

- The Swiss National Science Foundation for providing funding for the research done in this thesis.

- Didier Meuwly, whose pioneering work in applying Bayesian interpretation to forensic automatic speaker recognition provided the basis for my research.

- Filippo Botti, for being an excellent friend and collaborator, and for all the enlightening and productive scientific discussions and arguments we have had on forensic speaker recognition and other subjects over the years.

- Damien Dessimoz, for being one of the kindest and nicest people I have worked with, hardworking, always ready to help and an inexhaustible source of references. Special thanks to him for translating the abstract of this thesis into French.

- Anne Schwan, for her warmth, motherly love and affection, for the innumerable lunches and dinners, wonderful hikes and trips, for the company I look forward to every Thursday, and making her place a home away from home, especially during the time I was writing my thesis.

- Reva Schwartz from the United States Secret Service for her helpful inputs and her enthusiastic support in my academic and professional endeavors.

- My close friend, neighbor and photography mentor Arunan for all his support, help, swimming sessions with Santanu, and his encouragement over these years.

- Two Mathews who really helped me a lot, especially when I just embarked on this adventure are Jacob and Magimai-Doss, with their advice and readiness to help in the various parts of this thesis process.

Above all, I thank God for guiding and taking care of me every step of the way.