Acknowledgements

I am thankful to my institute Defence Institute of Advanced Technology (Pune) for considering my dissertation and providing help at all stages necessary during my work collecting information on my dissertation.

It gives me immense pleasure to express my deep and sincere gratitude to Dr.(Mr.) Dasari Srikanth (Dissertation guide) for his kind help and valuable advice during the development of the dissertation synopsis and his guidance and suggestions.

Apart from that, I would like to thank Mr Himanshu Chaudhary (co-guide), Assistant General Manager from the Integrated Surveillance Department (ISD) of the Securities and Exchange Board of India (SEBI) for guiding me throughout this project and giving his valuable suggestions wherein necessary. I would like to express my deepest sense of gratitude to the employees of the Integrated Surveillance Department (ISD) and Information Technology Department (ITD) of SEBI who have put in their time and efforts to give additional guidance and suggestions during the project.

I would also like to thank the employees of Hewlett Packard Enterprise (HPE), a contractor of SEBI, who have allowed me to access their development environments, sophisticated hardware and cloud platforms, and associated tools and have been an immense help throughout this project.

I am deeply indebted to the Head of the Applied Mathematics Department, Dr. (Mr.) Somanchi VSSNVG Krishnamurthy, for giving me this valuable opportunity to do this project. I express my hearty thanks to him for his assistance, without which it would have been difficult to finish this project and review the project successfully.

I would like to convey my deep sense of gratitude to all the teaching and non-teaching staff for their constant encouragement, support, and selfless help throughout the dissertation work. It is my great pleasure to acknowledge the help and suggestions that I received from the Department of Applied Mathematics.