

PREFACE

The document presented to you is the culmination of almost five years of research work in which I have been trying to gain knowledge on the upcoming and relatively new area of Satellite Image Processing (compression, denoising and decompression) to deliver some of my new insights back to the research society. It has been a long journey which has taught me a lot about several subjects, from Image Processing. The decrease in size of electronic gadgets day by day due to developments in VLSI technology has made deep impression on me and motivated towards this research work. FPGA and ASIC has attracted various disciplines of science and technology where close interactions with physical world are required. In this dynamic scenario it is a major task to provide improvements in compression, denoising and decompression of satellite images on board reducing area, frequency of operation and power consumption associated with FPGAs. Thus reducing the amount of time to transmit data from satellite to ground station.

Since 2011 when I started my doctoral study on Satellite Image Processing, my supervisor Prof. M.N. Giri Prasad has constantly guided me with valuable suggestions and great patience. During this journey, with both ups and downs, he showed me spirit of supportive leadership, which helped to enhance my vision and thinking. For this, I would like to kindly thank him.