PREFACE

The past decade had witnessed several unprecedented and exciting developments in the field of Biomedical Image Processing. A large number of Computer Aided Diagnosis methods has been given, but still there is a need of significant and accurate CAD for Cancer detection. This Thesis is meant for understanding the artifacts caused in CT imaging and an efficient Reconstruction method for medical Imaging. In this thesis various Reconstruction methods were discussed and the accurate reconstruction method adopted for classifying the cancerous lesion. The results were justified with artificial Intelligence methods and a database is maintained for relevant feedback with cancerous lesion. Considering all the artifacts in CT imaging, a reconstruction method defined which can avoid those artifacts, then the reconstructed image was further carried to identify the cancerous lesion and a database is maintained to find the relevant feedback of defined images. Chapter 1 introduces the basic Introduction of medical imaging and its related modalities. Chapter 2 covers the literature survey related to Reconstruction, artifacts and Image retrieval methods and also about segmentation and detection of region of interest Chapter 3 deals the basics of CT image Reconstruction and its related methods and focuses on the proposed approach which can avoid artifacts by reconstructing a model based approach of reconstruction. Chapter 4 deals with content based medical image retrieval methods for the reconstructed CT image chapter 5 gives the proposed Neural Network based computation for
segmenting and detecting the cancerous lesion. Chapter 6 concludes with future scope of the work done in this thesis. My heartful thanks to my guide Dr. D. Satya Narayana and Dr. M.N. Giri Prasad for his untiring efforts and kind guidance throughout my Ph.D Course for getting this thesis in a useful manner and as per the latest standards.