PREFACE

The advancement technology in science has increased the need for text information from images. Automatic conversion of images into electronic document simplifies storage, retrieval, interpretation and updating processes. However, prior to such a conversion the main challenging task is to separate the text and non-text regions from an image. Besides such separation of text and non-text regions, finds many other useful applications in document processing, automatic annotation, archiving indexing, and structuring of images. In addition, the performance of a document conversion system, such as an optical character recognizer, greatly depends on this separation task. Automatic text extraction from images is an extremely difficult and challenging job due to variations of the font, text style, size, orientation, alignment, low image contrast and complex background. A large number of techniques have been proposed to address this problem of text extraction from various types of images. But still, a text-image-analysis is needed to extract the text region from normal and noisy type of images. The purpose of this research work is to design effective algorithms for each phase of extracting text from various types of images. The performance of this approach is demonstrated and compared by presenting three set of experimental results for different set of images.

The first chapter provides an overview of the text extraction and includes background work and applications, types of images, text
extraction stages and the objective of the thesis.

The second chapter describes the previous implementations and limitations of the various types of text extraction techniques.

The third chapter discusses the fundamental methodologies implemented in this proposed research work.

The fourth chapter gives a detailed discussion and comparison on the first set of text extraction experiment with clear scene and caption text images.

The fifth chapter discusses the second set of experiments with noisy video images and comparison of it with different enhancement techniques.

In the sixth chapter, the third set of experiments with document images and discussions about the results is compared with existing techniques.

Finally, in seventh chapter the results are analysed and compared with certain parameters and provides the conclusion and future enhancement of this research work.