

Preface

The present thesis entitled “Image Priors and Pre-Conditioners for Blurring Face Recognition and Image Completion with Computer Vision” is an outcome of investigations carried out by me in the Department of Computer Science, DDU Gorakhpur University, Gorakhpur under the supervision of Prof. H.S. Shukla. The thesis consists of five chapters and each chapter has been further subdivided into a number of articles.

The first chapter deals with preliminaries of the topic and presents a review of literature. It also describes challenges in face identification and gives outlines of the plan of research.

In the second chapter we have surveyed the complete state-of-the-art techniques in the face image-based age synthesis and assessment topics, viz. existing models, popular algorithms, system performances, technical difficulties, popular face aging databases, evaluation protocols. Promising future directions are also provided with systematic discussions.

The third chapter is devoted to modified image based approach and neural networks for face recognition. We use the image processing toolbox with neural network toolbox and face recognition systems. We add some photos in database and use PCA and LDA methods in combination for face recognition in order to improve efficiency.

The fourth chapter deals with hybrid bilateral filtering technique for salt and pepper noise. Here the input image is salt and pepper noisy image. We use median filter and bilateral filter to improve the quality of denoised images. The quality of the denoised image is measured by PSNR, where it has been found that the hybrid bilatreal filter gives result better than that obtained from Wiener filter, bilaternal filter and median filter.

In the fifth and the last chapter we have proposed fuzzy based multilevel median filter to remove mixed noise in gray images. Computer simulation with two different images proves that the proposed filter is more efficient than conventional filters such as

median filter, Wiener filter, ATMED filter, ATMAV filter, TMAV filter and TMED filter.