

- o Easy-to-use, time sensitive image restoration and removal software for digital photos
- o Potentially applicable for image stabilization/removal in video

INTRODUCTION

Currently, several algorithms are reported or commercially available in software form that allow image inpainting, image restoration, and textures synthesis in a digital image. These methods are either too complicated to be performed in a commercially acceptable timeframe, produce artifacts at regions of high image gradients, and/or over smooth high texture regions and large regions. Our novel software shows significant improvement in final image quality while functioning in real-time environments.

HOW IT WORKS

In image restoration, both image inpainting technique and texture synthesis should be employed in order to complement each other. Image inpainting technique propagates structure information from the surrounding known area into the interior of the unknown area. This technique can handle color and intensity gradients correctly, but has difficulty in dealing with a large marked area that contains textures with fine details. Texture synthesis can successfully produce homogenous pattern or structure of the textures but will fail when the marked area contains linear structures and composite textures. Our algorithm and software combines the advantages of both approaches into a single and efficient method: Use inpainting principle to decide the filling order of a marked area and use simple texture synthesis technique to fill the marked region.

OPPORTUNITIES

This patent-pending technology is available for licensing or custom development to meet your needs. Collaborations on future research



Original Photo



Results from Adobe PhotoShop and Jasc Paint Shop plug in Image Doctor (10 second I/O)



Results from our algorithm (15 seconds I/O)

to develop image regulation and stabilization techniques for streaming video are an option.

Noetic Technologies, Inc. is the technical marketing and commercialization arm for all Southern Miss technologies.

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