

Removing Text and Inpainting Irregular Regions in Digital Images within Spatial and Frequency Domains

Zainab A. Abdul Kareem^{1,*}, and Ahmed K. Al-Jaberi²

1. Department of Mathematics, Open Educational College, The General Directorate of Basrah Governorate Education, Basra, Iraq.

2. Department of Mathematics, College of Education for Pure Science, University of Basrah, Basra, Iraq

*Corresponding authors E-mail: almosawizainab27@gmail.com

<https://doi.org/10.29072/basjs.20250103>

ARTICLE INFO

ABSTRACT

Keywords

Image Inpainting;
Frequency; Wavelet
Transform(Dwt);
Bertalmio; Transport.

Techniques for inpainting missing irregularly shaped regions and removing missing text in digital images have been introduced in both the frequency and spatial domains. Comparison of methodologies employed in the two domains Techniques that function directly on pixels in the spatial domain are straightforward and effective for real-time applications; nevertheless, they may lack the flexibility to simultaneously enhance all aspects of the image. Mathematical transformations, such as the Fourier transform and the discrete wave transform (DWT), are employed, with the discrete wave transform being a crucial instrument, particularly when utilizing Haar wavelets.

Received 13 Dec 2024; Received in revised form 30 Mar 2025; Accepted 19 Apr 2025, Published 30 Apr 2025

