IMPLEMENTATION OF EFFICIENT SIMPLIFIED NEURAL NETWORK FOR IMAGE FUSION OPTIMIZATION PROBLEMS

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Abstract

This Final Project propose efficient simplified neural network method as alternative solver for image fusion optimization problems. This neural network shows globally convergent to an optimal solution within a finite time and has a simpler structure and lower complexity for implementation than the existing neural network for solving such problems.

By transform the image fusion optimization into quadratic programming form and then solve with efficient simplified neural method, we can get optimal solution from image fusion. Measurement that used to know how good the optimal image fusion which resulted is represented with PSNR's value.

The Experiment is done to find optimal image fusion from distorted image by certain noise. Data for the experiments use five images from Matlab.

The result of this experiment shows that image fusion has better than image distortion with PSNR's value is higher than mean of PSNR image distortion.

Keywords: Efficient Simplified Neural Network, Quadratic Programming, Image Fusion, PSNR