Department of Computer Science

COMPUTER SCIENCE SEMINAR SERIES

Learning Fully Convolutional Networks for Iterative Non-blind Deconvolution

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TIME 4:30 pm - 5:00 pm
VENUE CS Seminar Room, Y6405
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ABSTRACT

In this paper, we propose a fully convolutional network for iterative non-blind deconvolution. We decompose the non-blind deconvolution problem into image denoising and image deconvolution. We train a FCNN to remove noise in the gradient domain and use the learned gradients to guide the image deconvolution step. In contrast to the existing deep neural network based methods, we iteratively deconvolve the blurred images in a multi-stage framework. The proposed method is able to learn an adaptive image prior, which keeps both local (details) and global (structures) information. Both quantitative and qualitative evaluations on the benchmark datasets demonstrate that the proposed method performs favorably against state-of-the-art algorithms in terms of quality and speed.

This paper was presented at the 2017 Conference on Computer Vision and Pattern Recognition, 21- 26 July 2017, Honolulu, USA.

Supervisor: Dr LAU Rynson W H

Research Interests: Low Level Vision

All are welcome!

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