

University of Pavia

Ph.D. School of Electrical and Electronics Engineering and Computer Science

SEMINAR

Deep Learning Based Methods for Low-Level Computer Vision Tasks

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Deep learning, e.g., convolutional neural networks (CNNs), has achieved great success in image processing and computer vision, especially in high level vision applications such as recognition and understanding. However, it is rarely used to solve low-level vision problems, such as natural image prior modeling and image compression. In this seminar, we introduce some of our recent low-level vision oriented work on Deep Learning, which moves a step forward and takes images prior into account in the deep learning framework. The key points of that approach include:

- Depth from a Single Monocular Image Using Deep Hybrid Network
- A Novel Compression Framework Based On Convolutional Neural Network
- Convolutional Neural Networks Based Intra Prediction for HEVC
- Learning Multiple Scale Information with Convolutional Neural Network for Image Denoising
- Local Smoothing Constraint in Convolutional Neural Network for Image Denoising

Bio: Feng Jiang received his Ph.D. in computer science from Harbin Institute of Technology (HIT), Harbin, China, in 2008. He is an Associated Professor in the Department of Computer Science, HIT. His research interests address computer vision, pattern recognition and image and video processing.

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