



symmetry

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Image Processing and Symmetry: Topics and Applications

Guest Editor:

Dr. Jun Xu

School of Statistics and Data
Science, Nankai University,
Tianjin 300071, China

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Message from the Guest Editor

Dear Colleagues, Image processing has witnessed great development in the past few years. The progress of image formation and the advancement of mobile intelligence devices have led to the wide application of research findings in computer vision to industrial production and daily life, simultaneously promoting breakthrough in symmetry image processing techniques. However, the training process and usage of symmetric deep neural networks require enormous computation resources, restricting its speed performance and its application on clients. Lightweight networks, which mainly focus on controlling the scale of the network and on speeding up network processing, are therefore proposed and have seen fast growth in recent years. This Special Issue introduces research on symmetric and lightweight neural networks for fast image processing. Some of these topics are the following: Symmetric and lightweight deep neural networks for image processing; Fast image denoising, super resolution, deblurring, etc.; Fast image object detection/segmentation; Fast and symmetric image style transfer.



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Prof. Dr. Sergei D. Odintsov

1. Institució Catalana de Recerca
i Estudis Avançats (ICREA),
Passeig Luis Companys, 23,
08010 Barcelona, Spain
2. Institute of Space Sciences
(ICE-CSIC), C. Can Magrans s/n,
08193 Barcelona, Spain

Message from the Editor-in-Chief

Symmetry is ultimately the most important concept in natural sciences. It is not surprising then that very basic and fundamental research achievements are related to symmetry. For instance, the Nobel Prize in Physics 1979 (Glashow, Salam, Weinberg) was received for a unified symmetry description of electromagnetic and weak interactions, while the Nobel Prize in Physics 2008 (Nambu, Kobayashi, Maskawa) was received for the discovery of the mechanism of spontaneous breaking of symmetry, including CP symmetry. Our journal is named *Symmetry* and it manifests its fundamental role in nature.

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Symmetry Editorial Office
MDPI, St. Alban-Anlage 66
4052 Basel, Switzerland

Tel: +41 61 683 77 34
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symmetry@mdpi.com
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