



## Deep Learning for Multiple-Level Visual Feature Extraction

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### Message from the Guest Editor

Dear Colleagues,

The outputs of deep neural networks usually have different abstraction levels from the input images, if trained with proper data and appropriate learning methods. This gives us the possibility of using intermediate layer outputs as multi-level descriptors for the given visual objects, which may be used for some other purposes. Another usage of intermediate layers is the re-use of the information from the previous layers not to lose input information. This Special Issue focuses on how multiple-level visual features are used. The topics of interest include, but are not limited to:

- Shortcut modification in residual networks and U-Net
- Feature extraction for semantic segmentation
- Nonlinear feature transformation using deep learning
- Multiple-level output fusion in deep neural networks
- Multiple-level feature transformation in deep neural networks
- Weakly supervised learning visual feature extraction
- Pooling methods for feature abstraction in deep neural networks
- Nonlinear dimensionality reduction by deep neural networks





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## Message from the Editor-in-Chief

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