

Call for paper for Special issue of Neural Processing Letters

‘Neural and Shallow Methods Feature Learning (NSMFL)’

Feature learning is designed to extract representations of the data aim at outputting correctly describing the data, and has been becoming a key process of data science and artificial intelligence which are related to all kinds of domains, such as computer science, medicine, statistics, chemistry and biology. Recently, a number of feature learning methods has been designed. In the literature, shallow learning methods (such as sparse learning and dictionary learning) try to learn features of data independent on the learning models, and thus lacking of robust learning performance. Neural network learning methods (such as auto-encoder and convolutional neural networks) are designed to simultaneously learn models and features, but need prior knowledge to tune parameter and easily lead to the overfitting issue.

With the exponentially increasing amount of collected data, the development of current feature learning methods (including shallow learning methods and neural network learning methods) is showing its inadequacies for satisfying the demand of the society. Hence, it is essential for creating new effective and efficient feature learning methods to meet the increase requirements of the users and real applications.

In this special issue, we invite researchers to investigate new shallow and neural learning methods for feature learning that are scalable to memory, easy to compute, and robust to all kinds of data. We also encourage researchers to overview the recent progress of feature learning. It is expected that the development of feature learning in this special issue would further influence the field of data science and artificial intelligence, so that this special issue could improve the reputation of this journal. To achieve this, this special issue searches for original contributions of work as well as review papers whose authors should be outstanding researchers in the fields on the topics including but not limited to:

- Applications of previous feature learning methods including SIFT, HOG, LBP, etc.
- Dictionary learning for feature extraction and regression/classification
- Sparse learning for feature extraction and classification
- Deep learning for feature learning and classification
- Transfer learning for feature learning and classification
- Neural network learning for multimedia data
- Neural network learning for transaction data
- Neural network learning for medical data
- Neural network learning for dimension reduction
- Shallow learning for clustering, classification and regression
- Neural network learning for clustering, classification and regression

Submission guideline:

The submitted manuscripts should not be published or have been reviewing in any journals or conferences. The extension of a published conference paper should contain at most 30% duplication to the submitted version.

Papers should be prepared by following the instructions of Neural Processing Letters, and the authors should submit their manuscript based on the following steps:

1. Submit their manuscripts on the website of Neural Processing Letters https://www.springer.com/new+%26+forthcoming+titles+%28default%29/journal/11063?detailsPage=pltc_i_3605241.
2. Answer ‘Yes’ to the question ‘Does this manuscript belong to a special issue?’
3. Select ‘SI: Neural and Shallow Methods Feature Learning (NSMFL)’.

The review process will be done by following the standard review process of this journal, where, in general, two reviewing rounds will have. After this, guest editors will make their initial decision and the EIC will send the final decision. In each round, each submission will be reviewed by at least three experts in the fields.

Important Dates:

- Paper submission deadline: October 1, 2019
- First notification: December 1, 2019
- Revision: February 1, 2020
- Final decision: March 31, 2020

Guest editors:

Dr. Xiaofeng Zhu, Massey University, New Zealand (s.zhu@massey.ac.nz) (Leader guest editor)

Dr. Qing Xie, Wuhan University of Technology, China (felixxq@whut.edu.cn)

Dr. Minjeong Kim, University of North Carolina at Greensboro, USA (mkim@uncg.edu)