



Call for Papers

Neural Processing Letters (NPL)

Special Issue on Affective Computing of Large-Scale Visual Content: Directions, Methodologies, and Applications

Aims and Scopes

With the rapid development of digital photography technology and wide-spread popularity of social networks, people have become used to sharing their lives and expressing their opinions using images and videos together with text, resulting in a large volume of visual content. To manage, retrieve and understand such gigantic visual collections poses significant technical challenges. Humans perceive and understand the visual content at a high level through the cognitive concepts and affective semantics. Most of the existing works on visual content analysis focused on understanding the cognitive aspects by describing the actual content, such as object detection and recognition. Recently, with a significant demand for emotion representation in artificial intelligence, the analysis of visual content at the affective level is becoming increasingly urgent.

Affective computing of the large-scale visual content is rather challenging because it involves multidisciplinary understanding of human perception and behavior. The development is constrained mainly by the affective gap and the subjectivity of emotion perceptions. Recently, great advancements in machine learning and artificial intelligence have made large-scale affective computing of visual content a possibility, which received a lot of interest and attention from both academic and industrial research communities.

This special issue seeks original contributions reporting the most recent progress on different research directions and methodologies on affective computing of large-scale visual content and its wide applications. It targets a mixed audience of researchers and product developers from several communities, i.e., multimedia, machine learning, psychology, computer vision, *etc.* The topics of interest include, but are not limited to:

- Different directions of large-scale affective visual computing
 - Dominant emotion recognition
 - Discrete emotion distribution estimation
 - Continuous emotion distribution estimation
 - Personalized emotion perception prediction
 - Group emotion clustering and affective region detection
- Machine learning methodologies for large-scale affective visual computing
 - Weakly-supervised/unsupervised learning
 - Few/one/zero shot learning
 - Deep learning and reinforcement learning
 - Metric learning
 - Multi-modal/multi-task learning
- Applications of large-scale affective visual computing
 - Image retrieval incorporating emotion
 - Emotion based visual content summarization
 - Image captioning with emotion
 - Virtual reality, such as affective human-computer interaction
 - Other applications in entertainment, education, psychology, and health care, *etc.*

Important Dates

- Submission deadline: September 30, 2018
- First notification: December 31, 2018
- Revision submission: February 28, 2019
- Notification of acceptance: April 30, 2019
- Anticipated publication: June 2019

Review Process

The review process will comply with the standard review process of the NPL journal. Each paper will receive at least three reviews from experts in the field.

Submission Instructions

Authors should prepare their manuscript according to the Guide for Authors of the NPL journal available at <http://www.springer.com/computer/ai/journal/11063> and submit their papers at <http://www.editorialmanager.com/nepl/>. Please select this article type “**SI: Affective Computing of Large-Scale Visual Content**”. All the papers will be peer-reviewed following the NPL reviewing procedures. Submitted manuscripts should not have been published previously, nor be under consideration for publication elsewhere. If the submission is an extended work of a previously published conference paper, please include the original work and a cover letter describing the changes that have been made. According to NPL publication policy, previously published conference papers can be eligible for publication provided that at least 30% new material is included in the journal version.

Guest Editors

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