CALL FOR PAPERS

IEEE Transactions on Affective Computing

Special Issue/Section on Automated Perception of Human Affect from Longitudinal Behavioral Data

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TOPIC SUMMARY:

Research trends within artificial intelligence and cognitive sciences are still heavily based on computational models that attempt to imitate human perception in various behavior categorization tasks. However, most of the research in the field focus on instantaneous categorization and interpretation of human affect, such as the inference of six basic emotions from face images, and/or affective dimensions (valence-arousal), stress and engagement from multi-modal (e.g., video, audio, and autonomic physiology) data. This diverges from the developmental aspect of emotional behavior perception and learning, where human behavior and expressions of affect evolve and change over time. Moreover, these changes are present not only in the temporal domain but also within different populations and more importantly, within each individual. This calls for a new perspective when designing computational models for analysis and interpretation of human affective behaviors: the computational models that can timely and efficiently adapt to different contexts and individuals over time, and also incorporate existing neurophysiological and psychological findings (prior knowledge). Thus, the long-term goal is to create life-long personalized learning andinference systems for analysis and perception of human affective behaviors. Such systems would benefit from long-term contextual information (including demographic and social aspects) as well as individual characteristics. This, in turn, would allow building intelligent agents (such as mobile and robot technologies) capable of adapting their behavior in a continuous and on-line manner to the target contexts and individuals.

This special issue is aimed at contributions from computational neuroscience and psychology, artificial intelligence, machine learning, and affective computing, challenging and expanding current research on interpretation and estimation of human affective behavior from longitudinal behavioral data, i.e., single or multiple modalities captured over extended periods of time allowing efficient profiling of target behaviors and their inference in terms of affect and other socio-cognitive dimensions. We invite contributions focusing on both the theoretical and modeling perspective, as well as applications ranging from human-human, human-computer and human-robot interactions.

Impact on the affective computing community

Given computational models, the capability to perceive and understand emotion behavior is an important and popular research topic. That is why recent special issues on the IEEE Journal on Transactions on Affective Computing covered topics from emotion behavior analysis "in-the-wild" to personality analysis. However, most of the research published by these specific calls threat emotion behavior as an instantaneous event, relating mostly to emotion recognition, and thus neglect the development of complex emotion behavior models. Our special issue will foster the development of the field by clustering excellent research on emotion models for long-term behavior analysis.

The topics of interest for this special issue include, but are not limited to:

- New theories and findings on continuous emotion recognition
- Multi- and Cross-modal emotion perception and interpretation
- Lifelong affect analysis, perception and interpretation
- New neuroscientific and psychological findings on continuous emotion representation
- Embodied artificial agents for empathy and emotion appraisal
- Machine learning for affect-driven interventions
- Socially intelligent human-robot interaction
- Personalized systems for human affect recognition

IMPORTANT DATES:

Abstract submission: -
Open for submissions in ScholarOne Manuscripts: 15th of October 2018
Closed for submissions: 19th of February 2019
Results of first round of reviews: 06th of April 2019
Submission of revised manuscripts: 06th of June 2019
Results of the second round of reviews: 05th of August 2019
Publication materials due: 06th of September 2019

SUBMISSION GUIDELINES:

Prospective authors are invited to submit their manuscripts electronically after the "open for submissions" date, adhering to the *IEEE Transactions on Affective Computing* guidelines (https://ieeexplore.ieee.org/xpl/RecentIssue.jsp?punumber=5165369). Please submit your papers through the online system (https://mc.manuscriptcentral.com/taffc-cs) and be sure to select the special issue or special section name. *Manuscripts should not be published or currently submitted for publication elsewhere.* Please submit only full papers intended for review, not abstracts, to the ScholarOne portal. If requested, abstracts should be sent by e-mail to the Guest Editors directly.