DESCRIPTION

Emotion is a neurophysiological response that comes from a conscious or unconscious stimulation. Scientific principles like logical discourse, arguments, testable assumptions, and repeatable experiments cannot explain emotions. In human speech/interaction/communication, feelings play a crucial role and can be expressed by multidimensional signals, including words, voice intonations, facial expressions, and movements. Recognition of emotions in the emotional analysis paradigm may contribute to the understanding of the cognitive functions in human beings, such as concentration and decision making. For instance, emotion modeling and behavioral impacts are considered useful in avoiding emotional effects in the workplace. Therefore, emotions should be reduced as far as possible in the decision-making process: Further, positive and negative emotions may distort the validity of a decision.

Identifying and characterizing human actions and behaviors are the necessary frameworks that ensure to provide contextual information and addressing complex problems, including self-management of health, personal guidance processes, event identification, and monitoring, action pattern analysis, and technical training. Combining recognition of human activities with recognition of emotion improves contextual information on how the user feels in doing something and provides rich context knowledge that can characterize an individual's physical and psychological well-being.

Machine learning methods have been used to understand human emotions reliably using physiological details, facial expressions, temporal expressions, speech, and text. Although there are several challenges in the learning model, which should be scalable with massive, heterogeneous results, unbalanced classes, and uncertainty in time. Therefore, modeling and predicting the emotional condition over time is not a trivial problem because continuous data labeling is very expensive and cannot always be achieved. It is a severe issue for real-world applications where feature labeling is sparse, and even the most prevalent emotional events are eventually described.

This special issue on “Machine Learning Technologies for Human Emotion Recognition” calls for manuscripts that suggest new methods, approaches, and applications for learning that face challenges relating to the recognition of human emotion.
The topics of interest for the special issue include, but not limited to the following:

- Recent Machine Learning Techniques used in human emotion detection
- Complexity analysis and bio signal research used to understand the human emotions
- An Empirical Study on multi-modal data for facial expression recognition using machine learning
- Integrating machine learning and wearable sensors for stress recognition
- Regularized Learning with nonlinear speech signals: A machine learning approach
- Automated emotion and stress recognition using machine learning
- Machine learning-based graphical models for gesture recognition and analysis
- Limitations of integrating machine learning application in detecting human emotion
- Deep learning approaches for psychology behavioural models
- Case studies on different types of machine learning classifiers for human emotion recognition
- Current challenges and future possibilities of machine learning and emotion recognition

**IMPORTANT DATES**

Submission Deadline of Papers: **20.05.2021**  
Authors Notification Date: **24.07.2021**  
Revised Papers Due Date: **28.10.2021**  
Final notification Date: **02.01.2022**