



## Special Issue on **Applications of Pattern Recognition Techniques to Mental Health**

# CALL FOR PAPERS

In recent years, pattern recognition (PR) techniques, such as support vector machines, random forest, or Bayesian networks, are being progressively introduced in mental health research. These techniques are especially useful because mental health departments and agencies all over the world have understood the importance of obtaining detailed information to characterize the different psychiatric disorders.

PR does not only involve the use of new techniques but also obtaining new features that improve the accuracy of predictions. In this regard, the field of mental health is acquiring new potential predictors by modernizing the way in which patients are assessed. For instance, the use of electronic health records, adaptive computerized tests, or ecological momentary assessments, as well as the collection of new data modalities (such as speech, movement, or facial recognition), is becoming widespread. Upgraded assessments generate a vast amount of (Big) data that needs to be analyzed.

From this wealth of data, multidisciplinary teams, constituted by psychologists, psychiatrists, data miners, and even computer vision and signal processing researchers, are starting to extract useful information using the current state-of-the-art techniques. Their efforts are gradually changing the paradigm of research in mental health. Testing with conventional statistics the existence of a significant association between exposition and outcome is probably insufficient when we try to understand complex models of disease with multiple determinants (biopsychosocial models). The new PR methods can provide innovative avenues to understand and treat mental disorders.

A multidisciplinary team of editors with expertise in both mental health research and modern computational methods of analyses will review the manuscripts. This special issue will include papers designed to provide improvements in clinical practice through the results of PR techniques, as well as methodological advances and applications with clinical value.

Potential topics include, but are not limited to:

- ▶ Pattern recognition applied to mental health
- ▶ Clinical assessment
- ▶ Big data in mental health
- ▶ Ecological momentary assessment
- ▶ Pattern recognition in electronic health records
- ▶ Pattern recognition in data collected with wearable and mobile devices

Authors can submit their manuscripts via the Manuscript Tracking System at <http://mts.hindawi.com/submit/journals/cmmm/apr/>.

### **Lead Guest Editor**

Enrique Baca-García, Fundación Jiménez Díaz, Madrid, Spain  
*ebacgar2@yahoo.es*

### **Guest Editors**

Benjamin Cook, Harvard University, Boston, USA  
*bcook@charesearch.org*

Jorge Lopez-Castroman, University of Montpellier, Montpellier, France  
*jorgecastroman@gmail.com*

David Delgado-Gómez, Universidad Carlos III de Madrid, Madrid, Spain  
*david.delgado@uc3m.es*

### **Manuscript Due**

Friday, 22 April 2016

### **First Round of Reviews**

Friday, 15 July 2016

### **Publication Date**

Friday, 9 September 2016