

CALL FOR PAPERS

IEEE Transactions on Emerging Topics in Computational Intelligence

Special Issue on Computational Intelligence in Mental Health

I. AIM AND SCOPE

Mental health is the state of an individual's ability to control his or her thoughts, feelings, and behaviours, and it helps determine how to cope with stresses, relationships with others, and challenges in life. It is important to maintain good mental health at every stage of life, from childhood and adolescence to adulthood and the elderly. Hence, improving mental health is too important to wait. Despite considerable progress has been made to promote mental health, much more effort is still required to address the current unmet and underestimated mental health need. Computational intelligence (CI) techniques (e. g., fuzzy logic, artificial neural networks, evolutionary computation, learning theory, and probabilistic methods) have recently provided new opportunities at least in these two aspects: i) By leveraging smart devices, especially the mobile ones, the patients are offered a convenient way to collect long-term data and continuously monitor mental health development, which helps to automatically and promptly prevent the degradation of mental health, lower the mental health risks, treat and diagnose the mental disorders and illnesses, across entire mental health pathways; and ii) CI in mental health significantly reduces the intervention of doctors and thus reduces the cost for patients compared with the traditional mental health system that is doctor-extensive, which very likely helps promote the equity of healthcare to everyone.

This special issue aims to capture contributions from the interdisciplinary domains across computational intelligence, machine/deep learning, mental health, neuroscience and psychology, affective computing, and healthcare. It especially targets challenging and expanding current research on exploring single or multiple modalities including speech, text, image/video, and biological signals, and assessing and monitoring general mental well-being, preventing mental illness development, detecting and diagnosing mental health conditions, and treating people with mental illness. The contributions can focus on both the theoretical and modelling perspective, as well as applications in different mental disorders and illnesses.

II. TOPICS

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

- Intelligent multimodal/-sensorial signal or model fusion in mental health;
- Intelligent mental health systems based on physical, biochemical, electrophysiological, and photoelectric signals;
- Intelligent social and non-social cues exploration for preventing and treating mild and severe mental disorders and illnesses;

- Biomarkers exploration in acoustic, linguistic, and visual cues in detecting and monitoring negative emotions and mental health;
- Transfer learning and self/semi-supervised learning for mental health analysis;
- Explainable and reliable emotional and mental modelling;
- Federated learning for privacy protection in mental health;
- Robust mental intelligence in real world;
- Benefitting trustworthy, explainable, fair, and efficient AI solutions for mental health
- Applications in alcohol and further addictions, Alzheimer's disease, anorexia nervosa, autism, bipolar disorder, dementia, depression, negative emotions, suicidal risk, and furthermore.

III. SUBMISSIONS

Manuscripts should be prepared according to the "Information for Authors" section of the journal and submissions should be done through the journal submission website: <https://mc.manuscriptcentral.com/tetci-ieee>, by selecting the Manuscript Type of "Computational Intelligence in Mental Health" and clearly marking "Computational Intelligence in Mental Health" as comments to the Editor-in-Chief. Submitted papers will be reviewed by at least three different reviewers. Submission of a manuscript implies that it is the authors' original unpublished work and is not being submitted for possible publication elsewhere.

IV. IMPORTANT DATES

- Paper submission deadline: **July 1, 2023**
- Notice of the first-round review results: **October 1, 2023**
- Revision due: **December 1, 2023**
- Final Notice of Acceptance/Reject: **February 1, 2024**

V. GUEST EDITORS

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