Call for IEEE Intelligent Systems Special Issue Papers:

Explicable Artificial Intelligence for Affective Computing

Guest Editors:

Rui Mao✉, Nanyang Technological University, Singapore
Erik Cambria, Nanyang Technological University, Singapore
Zhaoxia Wang, Singapore Management University, Singapore
Seng-Beng Ho, Agency for Science, Technology and Research, Singapore

Corresponding Email: rui.mao@ntu.edu.sg

Background:

As Artificial Intelligence (AI) advances, the need for transparency and interpretability in its decision-making processes becomes more pronounced, especially within the domain of affective computing. The capacity of AI systems to comprehend and react to human emotions introduces ethical considerations, necessitating a delicate equilibrium between innovation and accountability. Various stakeholders, spanning end-users, developers, and policymakers, express a collective need for a more profound comprehension of these systems, particularly in emotionally charged situations.

The motivation of this Special Issue stems from the inherent challenges in creating AI models that not only accurately recognize and respond to human emotions but also provide clear, interpretable insights into their decision-making processes. The Special Issue also aims at enriching the connotation of Explicable AI with diverse and comprehensive dimensions. Expanding the meaning of explicability is not just about deciphering the "black box" nature of AI models; it involves a broader understanding that encapsulates various facets crucial for fostering user trust, ethical considerations, and interdisciplinary collaboration.

Topics:

- Explainable sentiment analysis
- Explainable emotion detection
- Explainable figurative language processing
- Neurosymbolic affective computing
- Affective intention awareness AI
- Trustworthy AI for affective computing
- Affective computing involves multidisciplinary ensemble and explainability.
- Granular task decomposition for affective computing
- Ethical analysis pertains to Explicable AI for affective computing.

Highlights:

The Special Issue will consider papers on the mentioned topics that demonstrate humanitarian value. While achieving state-of-the-art performance is commendable, acceptance priority will be given to works that contribute to the advancement of seven pillars for future AI, including Multidisciplinarity, Task Decomposition, Parallel Analogy, Symbol Grounding, Similarity Measure, Intention Awareness, and Trustworthiness. All submissions to the Special Issue undergo a rigorous editorial pre-screening process to assess their relevance, quality, and originality. This initial screening ensures that the manuscripts align with the thematic focus of the Special Issue and meet the Journal's standards.

Evaluation Criteria:

The evaluation of submitted papers will be guided by the following key questions:
a) Does the paper contribute to explicable AI in the context of affective computing?
b) Does the paper provide an adequate level of technical innovation and/or analytical insights?
c) Are the findings or contributions supported by experimental evidence and/or theoretical underpinning?
d) Is the paper appropriate to be published on IEEE Intelligent Systems?

Peer Review:

The papers will be peer-reviewed by at least three independent reviewers with expertise in the area.

Important Dates:

Submissions Deadline: 30 April, 2024
First notification of acceptance: 14 May, 2024
Submission of revised papers: 28 May, 2024
Final notification to the authors: 5 June, 2024
Submission of final/camera-ready papers: 12 June, 2024

About the Editors:

RUI MAO is a Research Fellow, Lead Investigator at Nanyang Technological University, Singapore. He received his Ph.D. in Computing Science from the University of Aberdeen. His research interests include computational metaphor processing, affective computing and cognitive computing. He and his founded company have developed the first neural network search engine (https://wensousou.com) for searching ancient Chinese poems by using modern language, and a system (https://metapro.ruimao.tech) for linguistic and conceptual metaphor understanding. He has published several papers as the first author in top-tier conferences and journals, e,g., ACL, AAAI, IEEE ICDM, Information Fusion, and IEEE Transactions on Affective Computing. He served as Area Chair in COLING and EMNLP and Associate Editor in Expert Systems, Information Fusion and Neurocomputing.

ERIK CAMBRIA is the Founder of SenticNet, a Singapore-based company offering B2B sentiment analysis services, and a Professor at NTU, where he also holds the appointment of Provost Chair in Computer Science and Engineering. Prior to joining NTU, he worked at Microsoft Research Asia and HP Labs India and earned his PhD through a joint programme between the University of Stirling and MIT Media Lab. Erik is recipient of many awards, e.g., the 2018 AI's 10 to Watch, the 2019 IEEE Outstanding Early Career award, IEEE Fellow, and is often featured in the news, e.g., Forbes. He is Associate Editor of several journals, e.g., NEUCOM, INFFUS, KBS, IEEE CIM and IEEE Intelligent Systems (where he manages the Department of Affective Computing and Sentiment Analysis), and is involved in many international conferences as PC member, program chair, and speaker.

ZHAOXIA WANG is an Associate Professor of Computer Science (Practice) in the School of Computing and Information Systems of Singapore Management University (SMU). Prior to joining SMU, she was with the Institute of High Performance Computing (IHPC) under Agency for Science, Technology and Research (A*STAR), Singapore, rising to the position of Senior Scientist and Programme Manager. She has held various positions in a few academic institutions, including Visiting Scholar at the University of Birmingham, UK, Adjunct Professor at Tianjin University, Adjunct Faculty at National University of Singapore, and Adjunct Professor at Nanjing University of Information Science and Technology. Her research interests include natural language processing, machine learning, sentiment analysis, knowledge graph, image processing, knowledge representation, causal reasoning, and intelligent robots. She is Associate Editor of Complex & Intelligent Systems, IEEE Transactions on Affective Computing, and IEEE Transactions on Emerging Topics in Computational Intelligence.

SENG-BENG HO is currently a Senior Scientist at the Institute of High Performance Computing, A*STAR, Singapore, conducting research on AI. He obtained his Ph.D. in Cognitive Science (AI, Neuroscience, Psychology, and Linguistics) and M.Sc. in Computer Science from the University of Wisconsin, Madison, U.S.A. He has a B.E. in Electronic Engineering from the University of Western Australia. He has published a number of AI-related papers in international journals and conferences over the years and he is the author of a monograph published in June 2016 by Springer International entitled "Principles of Noology: Toward a Theory and Science of Intelligence". In the book, he presents a principled and fundamental theoretical framework that is critical for building truly general AI systems. For 11 years, he was President of E-Book Systems Pte Ltd, a company he founded that developed and marketed a novel 3D page-flipping interface for electronic books, with offices in the Silicon Valley, Beijing, Tokyo, Germany, and Singapore. He holds 36 U.S. and world-wide patents related to e-book technology. He has also lectured at the National University of Singapore on AI and Cognitive Science.