

IEEE SYSTEMS, MAN, AND CYBERNETICS MAGAZINE

CALL for PAPERS

Title

Special Issue on Human-centered Collaborative Systems

Guest editors

1. Dongning Liu, Guangdong University of Technology, China, liudn@gdut.edu.cn

Dongning Liu (Member, IEEE) is a full professor at Guangdong University of Technology in China (2009-now). He is engaged in education and technology transfer on collaborative computing. Dr. Liu earned a Ph.D. in Logic at Sun Yat-Sen University, Guangzhou, China (2007). He was a Post-Doctorial Fellow in Math at Sun Yat-Sen University (2007-2009). He was a visiting professor at Nipissing University, North Bay, Canada (2015-2016). He has published more than 50 papers on computer magazines and international conferences, such as IEEE Trans. on SMC: Systems, IEEE Trans. on Cybernetics, IEEE Trans. on Automation Science and Engineering, IEEE Trans. on Computational Social Systems. He is a member of IEEE SMC Society & serving as TC member of the technical committee of Distributed Intelligent Systems, a senior member of CCF Society, and serving as vice secretary general & a standing committee member of Technical Committee on Cooperative Computing of China Computer Federation.

2. Xiao Liu, Deakin University, Australia, xiao.liu@deakin.edu.au

Xiao Liu (Senior Member, IEEE) received his PhD degree in Computer Science and Software Engineering from the Faculty of Information and Communication Technologies at Swinburne University of Technology, Melbourne, Australia in 2011. He is currently an Associate Professor at the School of Information Technology, Deakin University, Melbourne, Australia. Before that, he was an Associate Professor at the Software Engineering Institute, East China Normal University, Shanghai, China. His research areas include Software Engineering, Distributed Computing and Service Computing, with special interests in workflow systems, cloud and edge computing, big data analytics, and human-centric software engineering. He has published over 150 papers including top journals such as ACM ToSEM, IEEE TSE, IEEE TPDS, IEEE TC, IEEE TSC, IEEE TMC, and top conferences such as ICSE, ASE, IPDPS, ICWS and ICDOC. He is currently an Associate Editor for the Journal of Systems and Software, and he has been a Leading Guest Editor for some leading journals such as JSS, FGCS, CCPE and Sensors. He is a Senior Member of IEEE and ACM.

3. Tun Lu, Fudan University, China, lutun@fudan.edu.cn

Tun LU received his Ph.D. degree in computer science from Sichuan University, China, in 2006. He was a visiting professor with the HCI Institute, Carnegie Mellon University, USA, from 2014.9-2015.8. He is currently a full professor with the School of Computer Science, Fudan University, China. His research interests include computer-supported cooperative work (CSCW), social computing, recommender systems, and human-computer interaction (HCI). He has published more than 80 peer-reviewed publications in prestigious conferences and journals such as CSCW, CHI, UbiComp, NuerIPS, WWW, SIGIR, IEEE TKDE, IEEE TMM. He shared the best paper award of CSCW'15, and honorable mention of CSCW'18. He is a senior member of China Computer Federation (CCF), and a member of IEEE and ACM. He is the secretary general of CCF Technical Committee of Cooperative Computing, an executive member of SIGCHI China Chapter. He has been active in professional services by serving as PC Co-Chairs (e.g., CollaborateCom'21 & 22, BESEC'22, ChineseCSCW'17~22, CSCWD'10), Associate Chairs (e.g., CHI'19 & 20 & 22, CSCW'19 & 20), Associate Editor of International Journal of Cooperative Information Systems, Editorial Board Member of Human-Centric Intelligent Systems, and guest editors and reviewers for many well-known journals and conferences.

4. Wei-Neng Chen, South China University of Technology, China, cschenwn@scut.edu.cn

Wei-Neng Chen received his bachelor's and Ph.D. degrees in computer science from Sun Yat-sen University, Guangzhou, China, in 2006 and 2012, respectively. Since 2016, he has been a Full Professor with the School of Computer Science and Engineering, South China University of Technology (SCUT), Guangzhou. He also serves as the Director of the Platform of Guangdong-Hong Kong Joint Innovative Platform of Big Data and Computational Intelligence, SCUT, China. His current research interests include computational intelligence, swarm intelligence, network science, and their applications. He has been a principal investigator (PI) of more than 10 projects, including the National Science and Technology Innovative 2030 Key Project for Artificial Intelligence, and the National Nature Science Foundation of China projects. He has co-authored

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over 100 international journal and conference papers, including about 60 papers published in the IEEE Transactions journals like IEEE Trans. Evolutionary Computation, IEEE Trans. Cybernetics, etc. Dr. Chen was a recipient of the IEEE Computational Intelligence Society (CIS) Outstanding Dissertation Award in 2016, and the National Science Fund for Excellent Young Scholars in 2016. He is currently the Vice-Chair of the IEEE Guangzhou Section. He is also a Committee Member of the IEEE CIS Emerging Topics Task Force. He serves as an Associate Editor for the IEEE Transactions on Neural Networks and Learning Systems, and the Complex & Intelligent Systems.

5. Dakuo Wang, Northeastern University, U.S., d.wang@northeastern.edu

Dakuo Wang received his Ph.D. in Information and Computer Science from the University of California Irvine in 2016. He is the Research Lead of Human-centered AI at IBM Research, Principal Investigator at MIT-IBM Watson AI Lab, and Adjunct Associate Professor at Northeastern University. His research lies at the intersection of human-computer interaction (HCI), artificial intelligence (AI), and computer-supported team collaboration (CSCW), with a focus on the exploration, development, and evaluation of human-centered AI (HCAI) systems. The overarching research goal is to democratize AI for every person and every organization, so that they can easily access AI and collaborate with AI to accomplish real-world tasks better -- the "human-AI collaboration" paradigm, where he published more than 60 papers and 50 patents. He has worked as a designer, researcher, and engineer in the U.S., China, and France. He has served in various organizing committees, program committees, and editorial boards for conferences and journals, and ACM has recognized him as an ACM Distinguished Speaker.

Scope, purpose and submission procedure

Recent years have witnessed an increasing shift in interest from machine-machine collaborative systems toward human-centered collaborative systems (HuCS). The HuCS aims at offering user-friendly environments and requires less learning, but at the same time provides high throughput and interaction capabilities, which apparently is an interdisciplinary edge-cutting research field. It has gained immense popularity in many areas over the past decades, e.g., pervasive computing, context-aware computing, affective computing, artificial intelligence, social network dynamics, social intelligence and cognition, and social systems design. Tremendous applications of the HuCS today have spread into the industry, healthcare, and even entertainment domains. In this context, user-friendliness and human-centeredness are two vital parts of constructing a successful HuCS. To facilitate the development of human-centered collaborative systems, this special issue aims to provide an interdisciplinary platform to integrate current research achievements.

While we encourage authors of top-quality papers accepted by the 2022 International Workshop on Human-Centric Software Engineering and Cyber Security (HCSE&CS 2022, co-located with ASE2022) to submit their extended articles, this special issue also has an open call to the wider research community. Our objective is to provide a summary of recent research that advances human-centric software engineering and to also serve as a collection of current state-of-the-art approaches and technologies.

Topics of interest

This special issue will cover topics including social network dynamics, social intelligence and cognition, affective computing, human-vehicle collaboration systems, and human-machine collaboration systems. This special issue will focus on recent progress and multi-disciplinary technologies with practical potential and far-reaching real-world implications. We welcome researchers to share their latest research findings from both academia and industry, including but not limited to the following:

- Social network, social systems design and architectures, and socio-cultural modeling and representation
- Human-machine/AI collaboration systems, and human-vehicle collaboration systems
- Human-centered collaborative intelligence, crowd/ collective intelligence
- Pervasive/ubiquitous computing, context-aware computing, evolutionary computing, and affective computing
- Human factors in the Internet of Things (IoT)/ AIoT
- Role-based collaboration methodology, and agent-based collaboration methodology
- Human-centered recommender systems
- Secure & privacy-preserving HuCS
- Emerging AI approaches and their applications in the HuCS

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- Human-centered design for education, transportation, industry, healthcare, finance, etc.
- Incorporating human factors into requirements and design e.g., emotions, bias, personality, and culture
- Tools and models for capturing and interpreting user behaviours in collaborative systems
- Impact of human factors on software development processes and software teams
- Other related topics

Important dates

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|-------------------------------------|--------------------|
| • Manuscript submissions due | (30 November 2022) |
| • First round of reviews completed | (31 December 2022) |
| • Revised manuscripts due | (31 January 2023) |
| • Second round of reviews completed | (31 March 2023) |
| • Final manuscripts due | (30 April 2023) |

Request for information

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