

Inaugural Message from Editors-in-Chief

On behalf of the Editorial Board, it is our privilege to present the first issue of the *Journal of Social Computing*, affectionately shortened *JoSoCo*.

Social computing concerns the intersection of social behavior and computational systems. Historically focused on recreating human social conventions and contexts through software and technology, we propose its expansion to the full interface between social interaction and computation.

JoSoCo features social computing work that integrates social data mining, predictive modeling, machine augmentation, and social scientific theorizing. Computational models and machines, which are built to enhance the social world, are typically instantiated with social behavior embedded in data. These models predict and simulate that data recreate environments with social institutions, such as rating systems that convey reputation and quality. Alternatively, researchers may seek to create new machines, platforms or predictions designed to disrupt, complement or short circuit, rather than substitute for existing behavior signals, thereby facilitating novel environments and self-discovery.

Some authors claim that big data represents the end of theory, but we argue that social theory constitutes a critical interface for researchers who seek to obtain new social computing knowledge and know-how. Big social data from the web and distributed sensors can be used to measure variables from theoretical models to test hypotheses. Confirmations strengthen theory; violations provoke change. With big social data, theories can begin with weak assumptions; mining social data provides signals for their development to build strong insights, as argued in James' paper "Social Computing Unhinged" from this issue.

Conversely, social science theories provide guidance and expectations for mining big social data. Theoretically informed qualitative and quantitative social research—such as systematic observation and population-sampled surveys—can de-bias results from

data obtained by convenience. Furthermore, social science theories inspire the expressive capacity and predictive power of models and machines—such as crowdsourcing environments and recommendation systems—that we build and extend with them. Models that tightly fit with data and machines or platforms that increase predicted interactions or generate social values suggest high-order confirmations of the hunches and hypotheses that inspired them. In Fig. 1, the arrows suggest dynamic feedback between new social computing platforms and predictive models that generate new social worlds with new interaction behaviors, which, in turn, inspire new evolutions of social theory, with an improved predictive power capable of generating human goods and values.

In expanding and, indeed, unhinging the definition of social computing, we further welcome and seek to catalyze work that brings social theory into conversation with computational theory, social models into conversation with computational models, and social data into conversation with computational networks and interactions, in the service of understanding, creating, and computing social goods; flourishing; and innovation.

JoSoCo is an open access, peer-reviewed scholarly

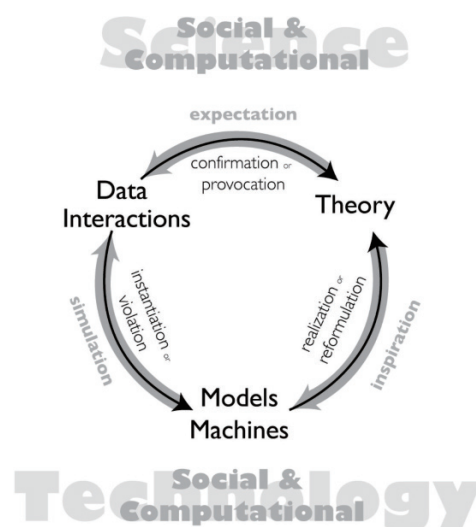


Fig. 1

journal that aims to publish high-quality, original research, which pushes the boundaries of thinking, findings, and designs at the dynamic interface of social interaction and computation, not only including research on traditional *social computing* and *computer supported cooperative work* but also *computational social science*—the use of computation to learn from the explosion of social data becoming available today; *socially intelligent computing* or the analysis of how dynamic, evolving social collectives constitute emergent computers to solve their own problems; socially inspired *computer science*, *human computer interaction*, and *human-centered computing* whereby machines and persons recursively combine to generate unique knowledge and collective intelligence.

The editorial board welcomes research from fields ranging across the social, behavioral, and cognitive sciences; computer and information sciences; physics and ecology; communications and linguistics; and, indeed, any field or approach that can challenge and advance our understanding of the interface and integration of computation and social life. **We seek to take risks, avoid boredom, and court failure on the path to transformative new paradigms, insights, and possibilities.** The journal is open to diverse theoretic paradigms, methodologies, and applications. Areas of interests include, but are not limited to:

- Social computing
- Collective intelligence, crowdsourcing, participatory actions
- Machine learning, data mining, big data analytics
- Computer-supported cooperative work, collaborative innovation network
- Computational social science
- Social network analysis
- Social behavior—individual and organizational
- Social economics
- Mechanism design and intelligent protocols
- Web/Textual/Knowledge mining, information retrieval
- Human–computer interaction
- Human-centered computing, computer-assisted mediation
- Human-centered artificial intelligence
- Computational linguistics and natural language

processing

- Complex social systems
- System dynamics
- Computational social ontology
- Social computing applications in healthcare, public health, education, business, politics, law, and other domains
- Digital marketing
- Consumer surveillance arts and exposition
- Privacy, legal, and ethical aspects of social computing
- Philosophy of social computing
- Race, racism, and racialization
- Gender, feminist, and queer perspectives
- Transnational aspects of social computing
- Psycho-cultural studies
- Sociotechnical imaginaries
- Situated computing environments
- Activist communication infrastructures
- Critical data studies
- Ethnographic and qualitative methodologies

This inaugural issue features six scientific papers. In the first article, “Social Computing Unhinged”, contributed by James Evans, the concept of social computing is expanded to cover the complete unfolding interface between social interaction and computation, including computationally enhanced sociality and social science, socially enhanced computing and computer science, and their increasingly complex combination for mutual enhancement. The author uses empirical examples to illustrate the relationship among these fields and the beneficial relationship between the technology and science of social computing.

The second article, “Measuring Cities with Software-Defined Sensors” by Charlie Catlett, Pete Beckman, Nicola Ferrier, Howard Nusbaum, Michael E. Papka, Marc G. Berman, and Rajesh Sankaran documents an ambitious experimental, urban-scale measurement system, the “Array of Things”, which is deployed in Chicago to measure urban factors previously only captured by human observers, such as social interaction. The system uses remotely programmable artificial intelligence within the devices—at the “edge” of the network—as a means of creating measurements that pinpoint opportunities for urban improvement while addressing ethical and privacy concerns.

The third article, “A Pattern Recognition Framework for Detecting Changes in Chinese Internet Management System”, contributed by Yu-Sung Su, Yanqin Ruan, Siyu Sun, and Yu-tzung Chang, studies the institutionalization of the Chinese Internet management system. The authors use real-world data (Weibo posts of recurrent events and elections) collected in a region in 2016 and 2018 and exploit the temporal evolution of social networks for the pattern analysis of structure changes in the online discussion of recurrent events. The results demonstrate top-down information management (i.e., filtering online expressions with keywords and topics) and bottom-up opinion formation (the government gathers informal opinions from online discussions and makes corresponding decisions, as on the LGBT issue).

The fourth paper, “Predicting Tie Strength of Chinese Guanxi by Using Big Data of Social Networks”, contributed by Xin Gao, Jar-Der Luo, Kunhao Yang, Xiaoming Fu, Loring Liu, and Weiwei Gu, investigates the strength of social ties in the Chinese context. The authors conduct a survey to identify ground truth and link it to a large dataset collected from a popular Chinese social network platform, which concerns the online interaction of users, to quantify the strength of Chinese Guanxi or human relationships. By adopting the methodical approach shown in Fig. 1, the authors establish a dialogue between big data-derived indicators and existing theories of tie strength, bridging the gap between social theory and computational methods.

In the fifth paper, “Darks and Stripes: Effects of Clothing on Weight Perception”, Kirill Martynov, Kiran Garimella, and Robert West study the domain of fashion and perception, where appearing slim is considered attractive and manufactures attempt to cater to this trend by designing outfits that enhance the appearance of slimness. They use crowdsourced people’s image data (together with ground-truth weight and height, in addition to clothing attributes about colors and patterns) to validate two well-known rules for appearing slim,

namely, 1) to choose dark clothes and 2) to avoid horizontal stripes. The results contribute to advancing the debate around the effect of specific clothing colors and patterns and thus provide empirical grounds for everyday fashion choice.

The concluding article, “Diversity of Idea Flows and Economic Growth”, contributed by Alex Pentland, features the author’s perspective on the role that access to diverse ideas plays in economic growth. The author observes that new forms of geo-located communication and economic data allow the measurements of human interaction patterns and predictions of economic outcomes for individuals, communities, and nations at fine granularity. Pentland finds that the strongest predictors of income, productivity, and growth are measures of diversity and frequency of physical interaction between communities. This finding may provide opportunities for new investments and novel methods of risk assessment, whereas challenges in access and use of these data—especially privacy and security risks—must be tackled.

Launching this new journal would not have been possible without substantial and much appreciated contributions from the Editorial Board members, Tsinghua University Press, and the IEEE. We would like to take this opportunity to acknowledge all authors who contributed to this inaugural issue of the journal. We are grateful to our editorial board and anonymous reviewers for their time and effort in reviewing the papers and providing valuable comments. We also thank all Tsinghua University Press publication staff members for their great efforts and assistance in producing and launching this inaugural issue of the journal. Finally, we cordially welcome all readers and fellow researchers to submit papers to this journal. We are also keen to hear your constructive ideas and suggestions for helping this newborn but promising new journal grow.

Thank you all. We look forward to your engagement.

Editor-in-Chief James Evans
Editor-in-Chief Xiaoming Fu
Editor-in-Chief Jar-Der Luo



James Evans is Professor of Sociology, Faculty Director of Computational Social Science and Director of Knowledge Lab at the University of Chicago and the Santa Fe Institute. His research uses large-scale data, machine learning and generative models to understand how collectives think and what they know, with a special focus on innovation in science, technology, ideology, and culture.



Jar-Der Luo is a professor at Department of Sociology, Tsinghua University, president of Chinese Network for Social Network Studies, and chairman of Tsinghua Social Network Research Center. He received the PhD degree from State University of New York at Stony Brook in 1993. He researches numerous topics in social network studies including social capital, trust, social network analysis in big data, self-organization process, and Chinese indigenous management researches, such as guanxi and

guanxi circle.



Xiaoming Fu received the PhD degree in computer science from Tsinghua University, Beijing, China in 2000. He was then a research staff at Technical University of Berlin until joining the University of Gottingen, Germany in 2002, where he has been a professor in computer science and heading the computer networks group since 2007. He has spent research visits at Cambridge, Columbia, UCLA, Tsinghua University, Uppsala, and UPMC, and is an IEEE senior member and distinguished lecturer. His research interests include Internet-based systems, applications, and social networks. He is currently an editorial board member of *IEEE Communications Magazine*, *IEEE Transactions on Network and Service Management*, *Elsevier Computer Networks*, and *Computer Communications*, and has published over 150 peer-reviewed papers in renowned journals and international conference proceedings.