The 3rd International Workshop on Data-driven Self-regulating Systems

at the 11th IEEE International Conference on Self-Adaptive and Self-Organizing Systems (SASO), part of FAS* - Foundations and Applications of Self* Systems Conferences

University of Arizona, Tucson, AZ, September 18-22, 2017

CALL FOR PAPERS

The emergence of pervasive and ubiquitous technologies together with social media has resulted in unprecedented opportunities to reason about the complexity of our society based on magnitudes of data. Embedded ICT technologies mandate the functionality and operations of several techno-socio-economic systems such as traffic systems, transportation systems, Smart Grids, power/gas/water networks, etc. It is estimated that over 50 billion connected smart devices will be online by the year 2020. Moreover, social media provide invaluable insights about the complexity of social interactions and how these interactions influence the sustainability of several ICT-enabled techno-socio-economic systems. These observations show that regulating online the complex systems of our nowadays digital society is a grand challenge. Regulation concerns trade-offs such as the alignment of technical requirements, e.g. robustness, fault-tolerance, safety and security, with social or environmental requirements, for instance, fairness in the utilization of energy resources. The scale of nowadays data cannot tackle the challenge by itself as data may convey ungrounded correlations and biased predictions. Smart, autonomic and self-regulating mechanisms are required for filtering data streams in real-time and transform them to valuable information based on which intelligent adaptive decisions can be made in a decentralized fashion under a plethora of operational scenarios.

TOPICS

self-regulation	privacy & security
autonomic computing	multi-agent systems
pervasive/ubiquitous computing	peer-to-peer systems
Internet of Things	self-organization
big data analytics	adaptive mechanisms
cloud computing	complex systems & (social) networks
online policy-making	mechanism design & game theory
distributed systems	quality of experience

KEYNOTE SPEAKER

Dr. Mark Yao

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Spinoff of Smarter Energy, IBM T.J. Watson Research Center

Dr. Mark G. Yao is a Senior Research and Development member of Utopus Insights. With more than 18 years both industrial and academic experience, Dr. Yao's research and development work focused on distributed, event-driven and agent-based distributed computing system. He is also a domain expert in networked intelligent sensor & actuator system, Cyber-Physical System (CPS), Internet of Things (IoT). Prior join of Utopus Insights, Dr. Yao was the research scientist and senior software architect at IBM Thomas J. Watson Research Center in Yorktown Heights, NY. He was the IBM technical lead and solution architect for several join research project sponsored by U.S. government department of energy, including 2010-2015 Pacific Northwest Smart Grid Demonstration Project and 2007 Gridwise Olympic Peninsula Gridwise Testbed project. He was the original designer and lead developer of Internet-scale Control System (iCS), a framework for developing agent-based, event-driven and distributed control systems. He won numerous IBM Corporate Awards, Research Outstanding Technical Achievement Awards, Outstanding Innovation Awards. Before his career of industry research, Dr. Yao was adjunct professor and conducted teaching and research in several universities in New York state. Dr. Yao has a Ph.D. in physics, with specialty of photonics & optoelectronics.

IMPORTANT DATES

Submission deadline: **July 17, 2017**

Authors notification: **July 30, 2017**

Final manuscript: **August 4, 2017**

Workshop dates: **Sept. 18-22, 2017**

ORGANIZERS

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SUBMISSION INSTRUCTIONS

You are invited to submit original and unpublished research works on above and other topics related to self-regulating systems. Submitted papers must not have been published or simultaneously submitted elsewhere. Please, indicate clearly the corresponding author and include up to 6 keywords and an abstract of no more than 400 words. Submissions have to be formatted according to the IEEE Computer Society Press proceedings style guide. Papers are submitted as PDF files via

https://easychair.org/conferences/?conf=dss2017

Authors of distinguished workshop papers may be invited to extend their workshop papers for their possible publication in a special issue of an international journal.

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