



PRO-VE 2018

19th IFIP / SOCOLNET

Working Conference on Virtual Enterprises

17-19 September 2018 – Cardiff, UK

Collaborative Networks of Cognitive Systems

Recent advances in artificial intelligence, specifically in the areas of; machine learning, sensorial perception, reasoning, communication capabilities, and human-machine interaction, lead to a new generation of cognitive systems that fundamentally challenge the foundations of past information systems.

With the explosion of available data, cognitive systems can learn, reason, and more effectively interact with users and their surrounding environments, thus enabling higher levels of collaboration between humans and systems. Conversely, users are increasingly becoming connected and pro-active participants in physical eco-systems as opposed to being passive recipients of various top-down optimization regimes, thus paving the way to a new generation of “user-in-the-loop” cognitive systems leveraging on domain semantics and higher order intelligence.

Growing levels of hyper-connectivity among people, organizations, smart things, and cognitive systems and machines point to new perspectives on collective awareness, collective intelligence, and even collective emotions.

This emerging reality challenges the way collaborative networks and systems are designed and operate. New forms of collaborative problem-solving can be devised, while the system’s evolutionary nature and its resilience and sustainability perspectives become the key issues. On the other hand, there is a need to better understand the potential for value creation through collaborative approaches in this context.

PRO-VE 2018 will provide a forum for sharing experiences, discussing trends, identifying challenges, and introducing innovative solutions aimed at fulfilling the vision of goal-oriented collaboration in networks of cognitive systems.

Targeted topics include the following, among others:

- Collaborative models and platforms for networks of cognitive systems
- Collaboration and collective awareness
- Collaborative problem solving, collective intelligence, and collective emotions
- Semantic data integration, access, and retrieval in networks of cognitive systems
- Dynamics and evolution of collaborative virtual-physical ecosystems of intelligent entities
- Cyber-security and influence of bots in networked cognitive systems
- Value creation and social impact of collaboration in networked cognitive systems
- Sustainability perspectives in cognitive environments
- Legal and policy aspects for networks of cognitive systems
- Societal impacts of networked cognitive systems
- Collective Intelligence and collaboration in advanced/emerging applications, including but not limited to:
 - Robotics, Collaborative Manufacturing and Factories of the Future, Smart buildings, Smart cities, e-Health and Care, Crisis/disaster Management, Logistics, Intelligent Transportation Systems, and Agribusiness

Besides addressing advances in scientific and technological research related to the above areas, papers from industry on related innovative case studies, as well as from the decision makers on related governing policies around the addressed theme, are well encouraged to be submitted. Therefore, cross-industry discussions are foreseen and welcome during the conference sessions in order to on the one hand fill the gap between the decision-makers’ demands and the researchers’ ideas and proposals, and on the other hand to better understanding of the depth and nature of challenges in the coming “cognitive systems” world, as well as reflecting on the collective role that they can play in shaping it.

Both scientific works and case studies, supported by advanced ICT systems with a sound experimental validation, are expected.

Important dates:

Abstracts: 11 Mar 2018
Full paper: 01 Apr 2018
Acceptance notification: 18 May 2018
Camera ready: 28 May 2018

*Evaluation of papers is double-blinded and based on the **full text**, considering the original scientific and technological contribution. However, prospective authors should submit a short abstract to the conference in advance, in order to check if the proposed topic fits within the conference scope.*

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