2019 IEEE Smart World Congress

Call for Papers

The 1st Workshop on Intelligence, Security and Resilience in Cyber Physical Systems

With the extensive growth of smart and autonomous devices, as well as corresponding development of software architecture and frameworks in recent years, Cyber Physical Systems (CPS) become attractive enabling efficient end-to-end workflows and new forms of user-machine interaction. On one hand, these CPS applications can provide critical services in various emerging application domains such as energy management, health care, traffic control, industrial measurement and surveillance, etc. On the other hand, the performance of internal functionality and processes highly relies on the design and optimization of intelligent nodes and models, security algorithms and resilient components due to their heterogeneous, evolving and distributed nature.

Recent advancement of Artificial Intelligence and Cyber Security has been well investigated and applied to CPS systems, but still meets the challenges in a large-scale and/or distributed CPS system. In addition, resilient services are critically required in a CPS to provide "acceptance-level" operational normalcy, e.g. state awareness, disturbance recognition and responses, etc.; nonetheless, existing approaches and tools are only able to support limited resilience in a non-dynamic manner, i.e., fail to consider and respond to a comprehensive profile of run-time situation without needs of the devices and individuals in a CPS. More issues need to be addressed such as how to securely maintain the resilient services, how to introduce intelligent responses in a CPS based on retrieved and/or recognized run-time states, and so on.

This workshop is intended for researchers, engineers and practitioners from both academia and industry, who are interested in issues on intelligent models, cyber security and resilience in CPS systems.

Potential topics include but are not limited to:

- Intelligent Models in a Cyber Physical System
- Data Security in a Cyber Physical System
- Service Resilience in a Cyber Physical System
- Machine Learning for Cyber Security and Privacy Protection in CPS
- AI and Deep Learning in Industrial CPS
- CPS Data Hiding in Plain- or Cipher-Formats
- Industrial CPS and its Communication Security
- Perception, Recognition and Resilient Responses in CPS

- Process Resilience and Adaptation in CPS

All papers should be prepared no more than 6 pages including all figures, tables, and references, following the IEEE CPS format via IEEE Manuscript Templates for Conference Proceedings. All accepted workshop papers will be included in the proceedings published by IEEE-CS Conference Publishing Services. The papers should be submitted through the EDAS system, and then choose Track "SWC2019: Workshop on Intelligence, Security and Resilience in Cyber Physical Systems" to complete submission. At least one author is requested to register and present their work at the conference; or the paper will be removed from the digital libraries of IEEE CS after the conference.

Important dates

Submission Deadline: April 26, 2019
First notification: May 10, 2019
Camera-ready Manuscript: May 19, 2019

Workshop Committee

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