INTERNATIONAL

INVITED SESSION SUMMARY

Title of Session:

Cybersecurity and Big Data

Name, Title and Affiliation of Chair:

Alfredo Cuzzocrea, Prof., University of Trieste & ICAR-CNR
Francesco Mercaldo, Dr., Institute for Informatics and Telematics, National Research Council of Italy (CNR), Pisa, Italy

Details of Session (including aim and scope):

Big data represent a new challenge to cybersecurity. For instance, self-driving cars are predicted to produce 4000 GB of data per hour of driving. Furthermore, the Internet of Things is expected to generate 400 zettabytes (ZB) of data a year. In this emerging context, big data analytics represent a emerging analytical technology with the potential to offer the capability to collect, store, process, and visualize these vast amounts of data.

Big Data Analytics in Cybersecurity examines security challenges surrounding big data and provides actionable insights that can be considered in order to improve the current practices related to the plethora of aspect cybersecurity related, for instance from the network operators, administrators and end users point of view.

The application of big data analytics in cybersecurity is critical. By exploiting data from infrastructure, computers, cyber physical systems, big data analysts are able to discover useful information from data in order to securize system also from both administrators and end users. Decision makers can make more informative and conscious decisions through this kind of emerging analysis, including what actions need to be performed, and improvement recommendations to policies, guidelines, procedures, tools, and other aspects of the security processes.

Submissions are expected from, but not limited to the following topics:

Analysis, Design and Assessment of secure systems
Security and privacy in Internet of Things (IoT)
Securing private data on mobile and wearable devices
Security in Cyber Physical Systems
Security in Smart Grid and in Cloud Computing environments
Security in Social Networks
Intrusion Detection
Cyber Insurance
Formal methods for Security
Formal methods for Big Data Analytics
Machine learning applications
Artificial Intelligence for Cybersecurity
Cybersecurity in healthcare
Fraud detection and forensics
Big Data Security for complex data analysis (video, sensors, text, etc.)
Network security and Verification and Validation of Critical Infrastructures
Design and validation of malware detection approaches and systems
Security issues in Complex System and Environment

Main Contributing Researchers / Research Centres (tentative, if known at this stage):
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