IEEE Transactions on Big Data
Special Issue on "Big Data Applications in Cyber Security and Threat Intelligence"

This last decade has witnessed a tremendous rapid increase in volume, veracity, velocity and variety of data generated by different cyber security solutions and as part of cyber investigation cases. When a significant amount of data is collected from or generated by different devices and sources, intelligent big-data analytical techniques are necessary to mine, interpret and visualise such data. To mitigate existing cyber security threats, it is important for big-data analytical techniques to keep pace.

This special issue will focus on cutting-edge from both academia and industry, with a particular emphasis on novel techniques to mine, interpret and visualise big-data from a wide range of sources and can be applied in cyber security, cyber forensics and threat intelligence context. Only technical papers describing previously unpublished, original, state-of-the-art research, and not currently under review by a conference or a journal will be considered. Extended work must have a significant number of "new and original" ideas/contributions along with more than 30% brand "new" material.

Specifically, this issue welcomes two categories of papers: (1) invited articles from qualified experts; and (2) contributed papers from open call with list of addressed topics, such as:
- Advanced persistent threats detection and/or intelligence techniques
- Big data analytical techniques for cyber defense and cyber intelligence (e.g. big data security analytics)
- Anomaly detection for big data
- Real-time correlation and analysis of big data for cyber intelligence
- High-speed querying of big data for cyber intelligence
- Big data sharing, visualization and/or exploration (e.g. contextualizing of diverse security incidents)
- Big forensic data management and/or reduction
- Big forensic data provenance

Every submitted paper will be reviewed by at least three independent experts. We will also recommend submission of multimedia with each paper as it significantly increases the visibility, downloads, and citations of articles.

Selection and Evaluation Criteria
- Relevance to the topics of this special issue, and IEEE Transactions on Big Data
- Research novelty (e.g. new techniques) and potential impact
- Readability

Important Dates:
- Submission deadline: 1 September 2016
- Authors' notification: 15 November 2016
- Revisions due: 31 January 2017
- Final decision: 31 March 2017
- Camera ready version due: 30 April 2017
- Tentative publication date: Late 2017

Paper Solicitation:

To solicit papers, we will advertise the call on mailing lists, such as IEEE Cipher and our colleagues, and send to particular colleagues working in the areas related to this special issue to invite good quality submissions. This will be an open call and we will not restrict submissions to only particular research groups or projects. We will also advertise the call for contribution at international conferences in the domain via the guest editors and their colleagues and collaborators.

Guest Editors:
1. Kim-Kwang Raymond Choo, University of South Australia, Australia (raymond.choo@fulbrightmail.org)
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