Symposium on the Signal Processing of Big Data

Chairs

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TPC Members

TBD

CALL FOR PAPERS

Signal processing is becoming a central discipline in the study and analysis of big data, with the emergence of datasets having volume, variety, velocity and veracity in countless applications and industries. This symposium aims to bring together researchers and experts in the field of signal and information processing for improving future big data systems.

Topics of interest include (but are not limited to):

- Computational models and representations for big data
  - Compressive sampling for big data
  - Tensor factorization models for multi-way data
  - Randomized linear algebra for big data
  - Scalable (fast)
  - Spectral decompositions for representation of big data
  - Graph signal processing theory
  - Transforms for graph signals
  - Graph simplification and multi-resolution methods
- Big data acquisition, storage, retrieval, interpretation
  - Protocols for networked storage, indexing and retrieval
  - Signal processing hardware and architectures for massive datasets
  - Data resiliency to node failure
  - Lossless data compression for massive datasets
  - Lossy data compression for massive datasets
  - Sketching, streaming, and real time data retrieval for time varying (spatiotemporal) data
- Learning and inference with big data
  - High dimensional spatiotemporal models
  - Theoretical limits of high dimensional statistical inference
  - Methods of anomaly/change detection with time varying big data
  - Random matrix models and non-commutative information theory for big data
  - Statistical modeling of heterogeneous data types
  - Learning correlation networks for big data
  - Learning Bayes networks for big data
  - Deep learning for big data
  - Non-parametric learning for big data
  - Distributed signal and information processing for big data on networks
  - Crowdsourcing/human computation for big data processing

    - Stream Mining and Decision Making from Big Data
    - Signal processing approaches to discovery/creativity/machine science
- SP Methods for Big Data Analytics
    - Visualization and summarization of big data
    - Social media, recommendation systems and collaborative filtering
    - Defense, intelligence and security
    - Biology and medicine
    - Astronomy and other physical sciences
    - Urban informatics
    - Big Data in Social sciences
    - Business analytics, forensics and finance
    - E-Teaching

Submission of Papers: Prospective authors are invited to submit full-length papers, with up to four pages for technical content including figures and possible references, and with one additional optional 5th page containing only references. Manuscripts should be original (not submitted/published anywhere else) and written in accordance with the standard IEEE double-column paper template. A selection of best papers and best student papers will be made by the GlobalSIP 2016 best paper award committee upon recommendations from Technical Committees.

Notice: The IEEE Signal Processing Society enforces a “no-show” policy. Any accepted paper included in the final program is expected to have at least one author or qualified proxy attend and present the paper at the conference. Authors of the accepted papers included in the final program who do not attend the conference will be subscribed to a “No-Show List”, compiled by the Society. The “no-show” papers will not be published by IEEE on IEEEXplore or other public access forums, but these papers will be distributed as part of the on-site electronic proceedings and the copyright of these papers will belong to the IEEE.

Timeline for paper submission:
June 2016: Paper submission deadline
August 2016: Review results announced
September 2016: Camera-ready papers due

For inquiries and questions please contact the Symposium Chairs: Patrick Wolfe (p.wolfe@ucl.ac.uk) or Lav Varshney (varshney@illinois.edu).