

## Call for Papers SensorKDD 2012

6<sup>th</sup> International Workshop on

### Knowledge Discovery from Sensor Data

On August 12th at Beijing, China, in conjunction with ACM KDD 2012

[www.northeastern.edu/sds/SensorKDD-2012](http://www.northeastern.edu/sds/SensorKDD-2012)

Wide-area sensor infrastructures, remote sensors, RFIDs, phasor measurements, and wireless sensor networks yield massive volumes of disparate, dynamic, and geographically distributed data. With the recent proliferation of smart-phones and similar GPS enabled mobile devices with several onboard sensors, collection of sensor data is no longer limited to scientific communities, but has reached general public. As such sensors are becoming ubiquitous, a set of broad requirements is beginning to emerge across high-priority applications including adaptability to national or homeland security, critical infrastructures monitoring, smart grids, disaster preparedness and management, greenhouse emissions and climate change, and transportation. The raw data from sensors need to be efficiently managed and transformed to usable information through data fusion, which in turn must be converted to predictive insights via knowledge discovery, ultimately facilitating automated or human-induced tactical decisions or strategic policy based on decision sciences and decision support systems.

We seek papers related to the theoretical foundations of sensor data mining, new adaptations, improvements upon existing methodologies as well as novel applications of data mining techniques in problems broadly related to sensor data for consideration in the workshop. We also welcome cross-disciplinary case studies and success stories for knowledge discovery from sensor data, particularly end-to-end frameworks that encompass one or more areas among the following: data acquisition, offline data mining and online analysis, hypothesis generation, model validation, uncertainty assessment, as well as translations to decisions and policy.

#### IMPORTANT DATES:

- **Papers Due:** May 8, 2012.
- **Notification of Acceptance:** June 1, 2012.
- **Camera ready:** Jun 8, 2012.
- **Workshop:** Aug 12, 2012.

#### PAPER SUBMISSION:

Papers in both long and short formats will be accepted for final submission. Interested authors should submit their papers using the standard ACM style in MS Word or PDF format as an email attachment to [sensorkdd2012@gmail.com](mailto:sensorkdd2012@gmail.com). Papers submitted to this workshop will be peer-reviewed and authors will be notified of acceptance/rejection. Manuscripts must not exceed 8 pages and should include the paper title, author(s), authors' affiliations, e-mail addresses, phone/fax numbers, postal address, and an abstract on the first page.

#### WORKSHOP TOPICS:

SensorKDD 2012 seeks to bring together researchers from academia, government, and the industry working in the following areas and applications:

1. Offline Knowledge Discovery
  - a. Predictive analysis from geographically distributed and heterogeneous data
  - b. Computationally efficient approaches for mining unusual patterns, specifically, anomalies, extremes, nonlinear processes and change, from massive and disparate space-time data
2. Online Knowledge Discovery
  - a. Real-time analysis of dynamic and distributed data, including continuous streams of time-changing and event-based data
  - b. Resource-aware algorithms for distributed mining
3. Decision and Policy Aids
  - a. Coordinated offline discovery and online analysis with feedback loops
  - b. Combination of knowledge discovery and decision scientific processes
  - c. Facilitation of faster and reliable tactical decisions as well as prudent and insightful longer term policies
4. Theory
  - a. Theoretical frameworks for distributed stream mining
5. Case Studies
  - a. Success stories in national or global priority applications
  - b. Real-world problem design and knowledge discovery requirements

The above topics are exemplary rather than exhaustive. We welcome new topical areas that broadly relate to sensor data and knowledge discovery.