Special Symposium

2nd Symposium on Data Analytics for Advanced Manufacturing

Dec.11-14, 2017 Boston, MA, USA

Program Schedule

Description:

The manufacturing industry, which is vital to all economies, is being challenged to improve its efficiency across the product life cycle and the value chain. The critical aspect of "smartness" is enabled by advanced data analytics for understanding, prediction, and control of manufacturing systems across the product lifecycle (design analytics, production analytics, and use and post-use analytics) and to the extended networked enterprises. Continuous improvements in sensor technologies, data acquisition systems, and data mining and data analytics allow the manufacturing industry to effectively and efficiently collect large, rapid, and diverse volumes of data and get valuable insights from this data. A good understanding and use of sensors and networking hardware (collectively called the Internet of Things or IoT) is essential for maximizing the benefits of data analytics in the manufacturing industry.

This symposium intends to provide a platform for researchers and industry practitioners from manufacturing, information science, and data science disciplines to share their data mining and data-analytics-related research results, and practical design or development experiences in the manufacturing industry. It will foster collaboration among academia, industry, and governmental organizations to help improve manufacturing efficiency, product quality, and sustainability in small and large manufacturing industries. This year, we focus on the technical challenges and opportunities for implementing IoT for manufacturing.

Research Topics:

Topics covered by the symposium include, but are not restricted to, the following:

Infrastructure and algorithms

- Internet of Things (IoT) – sensors, security and cloud infrastructure
- Technologies for data storage, retrieval, and pre-processing
- Techniques for building predictive models
- Modeling and simulation of manufacturing systems and operations for data analytics

Applications

- IoT scenarios, examples and evaluation
- Improving efficiency and productivity of manufacturing processes
- Prognostics and health management, product quality and post-production maintenance
- Data-driven supply chain management

Standards and protocols

- IoT related standards and protocols
- Standards and protocols for deployment of data analytics and exchange of analytics solutions

- Verification & validation issues related to application of data analytics in manufacturing
- Techniques for quantifying uncertainty in data and models, and variability in physical processes

This symposium will consist of four sessions:

1. Keynote Speeches
2. Mini-symposium on IoT platforms
3. Technical Paper Presentations
4. Tutorial: Tutorial 9: Building and Deploying Predictive Analytics Models Using the PMML Standard

Important dates:

Aug 20, 2017: Due date for abstract submission

Sept 15, 2017: Due date for full papers submission

Oct 16, 2017: Notification of paper acceptance

Nov 10, 2017: Camera-ready of accepted papers

Dec 11-14, 2017: Symposium

Symposium Organizers:

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