



Dealing with streaming data for smart manufacturing

Abstract

Recent advances in sensor arrays, imaging systems, as well as data science and AI open an exciting opportunity to rethink the way we assure and optimize performance and quality in the manufacturing industry. With the increasing availability of high-dimensional, streaming data in the industrial practice, it is now possible to predict impending anomalies and breakdowns across a manufacturing plant much earlier, and over considerably longer time horizons. Also, with the increasing availability of large time-series data, nonparametric machine learning approaches are becoming attractive for the prediction and prognosis of anomalies and breakdowns. This talk will overview three methods, each aimed at addressing a particular challenge with anomaly detection in smart manufacturing processes.

Speaker Bio

Satish T. S. Bukkapatnam received his Ph.D. and M.S. degrees in industrial and manufacturing engineering from the Pennsylvania State University. He currently serves as Rockwell International Professor with the Department of Industrial and Systems Engineering department at Texas A&M University, College Station, TX, USA. He is also the Director of Texas A&M Engineering Experimentation Station (TEES) Institute for Manufacturing Systems. His research in smart manufacturing addresses the harnessing of high-resolution nonlinear dynamic information, especially from wireless MEMS sensors, to improve

the monitoring and prognostics, mainly of ultraprecision and nanomanufacturing processes and machines, and wearable sensors for cardiorespiratory processes. His research has led to over 160 peer-reviewed publications; five pending patents; \$6 million in grants as PI/Co-PI from the National Science Foundation, the U.S. Department of Defense, and the private sector; and 14 best-paper/poster recognitions.

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11:00am - 12:00pm

Chrysler Center, Room 151
2121 Bonisteel Blvd
Ann Arbor
Metered parking is available.



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Questions?

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