

## Data Science Seminar Series

### Advanced Data Analytics for Quality Assurance of Smart Additive Manufacturing



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**Date:** Thursday, November 3rd, 2022

**Time:** 4:00 PM - 5:00 PM

**Location:** Zoom Virtual Room

**Web Link:** [RSVP Here](#)

Additive manufacturing (AM), also called 3D printing, is a crucial component of advanced manufacturing systems, proliferating rapidly in the era of Industry 4.0. However, how to ensure the quality and productivity of AM still remains challenging. Driven by edge computing, the Industrial Internet of Things (IIoT), sensors, and other smart technologies, data collection, communication, analytics, and control infiltrate every aspect of manufacturing, providing a new perspective for AM quality assurance. Along this direction, three related topics are presented in this talk: (1) Image fusion and decomposition for melt pool characterization in metal AM; (2) High-dimensional data feature extraction for AM process monitoring; (3) Active learning/Bayesian optimization for AM process design.

Bo Shen is an assistant professor in the Department of Mechanical & Industrial Engineering at NJIT. He got his Ph.D. from Virginia Tech in 2022. He also obtained his B.S. degree in Statistics from the University of Science and Technology of China. His research is at the interface of data science/artificial intelligence and advanced manufacturing. He is interested in developing advanced machine learning methods for improving the quality and productivity of advanced manufacturing.