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# Data Science in Engineering, 2026, Vol. 9

## Proceedings of the 44th IMAC, A Conference and Exposition on Structural Dynamics 2026

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### Description:

Data Science in Engineering, Volume 9: Proceedings of the 44th IMAC, A Conference and Exposition on Structural Dynamics, 2026, the ninth volume of ten from the Conference, brings together contributions to this important area of research and engineering. The collection presents early findings and case studies on fundamental and applied aspects of Data Science in Engineering, including papers on:

- Novel Data-Driven Analysis Methods
- AI-Driven Digital Twins for Structural Modeling and Dynamic Characterization
- Transfer Learning and Population-Based Monitoring
- Data-Driven Techniques for System Prognostics and Health Monitoring
- Applications of AI in Structural Dynamics and System Identification
- Uncertainty Quantification in Data-Driven and Hybrid Models
- Physics Informed Machine Learning for Dynamic Systems

**Keywords:** NeRFs, 3D scanning, PINN identification damping, Fluid Dynamics, Neural Operators, Multi-Task Learning, PIML, Soft constraint, Weight tuning, adaptive learning, Acoustic Emission, Anomaly detection, AI-based NDT, Network Science, Graph Theory, IE Models, PBSHM