Weijun Shen

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PROFESSIONAL EXPERIENCE

Assitant Professor: School of Engineering and Engineering Technology, University of Arkansas at Little Rock, Little Rock, AR, 2025~Present

Instructor & Addiministrative Assistant: College of International Vocational Education, Shanghai Polytechnic University, Shanghai, China, 2016~2019

Lab Coordinator & Instructor: College of Engineering, Shanghai Polytechnic University, Shanghai, China, 2013~2016

RESEARCH INTEREST

- Additive Manufacturing (3D Printing)
- Additive Manufacturing for Functional Design
- Non-Destructive Evaluation (Structured Light Scanning and X-Ray CT)

EDUCATION

- Ph.D in Industrial Engineering, University of Wisconsin – Madison, Madison, WI, 2025
- B.S. in Mechanical Engineering, Shanghai Polytechnic University, Shanghai, China, 2013

TEACHING EXPERIENCE

- MEEG 10742 - Introduction to Mechanical Engineering
- MEEG 43703/53703 - Engineering Materials II
- ETME 21703 - Manufacturing Processes

JOURNAL PUBLICATIONS

1. [In Preparation] Li, W., **Shen, W.**, TBD, Veeramani, D., & Qin, H. Broadband Acoustic Absorption via Dual-Material 3D Printed Infill Designs. *Journal TBD*.
2. [Under review]L. Liu, **W. Shen**, Z. Zhang, S. Holland, Q. Li, and A. Krishnamurthy, "Reconstruction of deformed trimmed NURBS solid models using a reference CAD topology," *Journal of Computing and Information Science in Engineering*
3. **W. Shen**, P. Zhang, and H. Qin, "Wedged mortise-tenon structure for fixed connections in additive manufacturing assemblies using fused filament fabrication," *Progress in Additive Manufacturing*, 2026, doi: 10.1007/s40964-026-01565-3.
4. **W. Shen**, P. Zhang, and H. Qin, "Design and evaluation of Kresling origami-inspired non-pneumatic tires fabricated via FDM 3D printing," *Smart Materials and Structures*, vol. 35, p. 025008, 2026, doi: 10.1088/1361-665X/ae3a61.
5. **W. Shen**, D. Veeramani, and H. Qin, "Warpage mitigation through infill sectioning in fused filament," *IISE Transactions*, pp. 1–19, 2026, doi: 10.1080/24725854.2024.2445121.

6. **W. Shen**, P. Zhang, W. Li, and H. Qin, "Additive manufacturing for functional design: A review of capabilities, strategies and applications," *Rapid Prototyping Journal*, pp. 1–27, 2025, doi: 10.1108/RPJ-05-2025-0187.
7. **W. Shen**, W. Li, and H. Qin, "Dual-function infill design in FDM for mechanical and acoustic optimization," *Smart Materials and Structures*, vol. 34, no. 8, p. 085026, 2025, doi: 10.1088/1361-665X/adfbb4.
8. T. Mukherjee, **W. Shen**, Y. Liao, and B. Li, "Improving deposited surface quality in additive manufacturing using structured light scanning characterization and mechanistic modeling," *Journal of Manufacturing and Materials Processing*, vol. 8, no. 124, 2024, doi: 10.3390/jmmp8030124
9. S. Chen, L. Yu, W. **Shen, B**. Fong, Y. Li, P. Dong, *et al.*, "Multimodal 5-DOF stretchable electromagnetic actuators toward haptic information delivery," *Advanced Functional Materials*, p. 2314515, 2024, doi: 10.1002/adfm.202314515
10. **W. Shen**, Y. Cao, X. Jiang, Z. Zhang, G. E. Okudan-Kremer, and H. Qin, "Experimental and numerical investigation on radial stiffness of origami-inspired tubular structures," *Journal of Applied Mechanics*, vol. 89, no. 3, 2022, doi: 10.1115/1.4052799
11. **W. Shen**, X. Jiang, Z. Zhang, G. E. Okudan-Kremer, and H. Qin, "An origami-inspired infill pattern for additive manufacturing to reinforce the energy absorption performance," *The International Journal of Advanced Manufacturing Technology*, pp. 1–8, 2022, doi: 10.1007/s00170-022-09883-w
12. X. Zhang, **W. Shen**, V. Suresh, J. Hamilton, L. H. Yeh, X. Jiang, Z. Zhang, Q. Li, B. Li, I. V. Rivero, and H. Qin, "In situ monitoring of direct energy deposition via structured light system and its application in remanufacturing industry," *The International Journal of Advanced Manufacturing Technology*, vol. 116, no. 3, pp. 959–974, 2021, doi: 10.1007/s00170-021-07495-4

CONFERENCE PUBLICATIONS & PRESENTATIONS

1. **Shen, W.**, Jiang, X., & Qin, H. "Acoustic Absorption Performance Investigation in Standard and Custom Infill Patterns for FFF 3D Printing with PLA Filament", *Manufacturing Letters*, 44, 1113-1122, 53rd SME North American Manufacturing Research Conference (NAMRC 53).
2. **Shen, W**, Veeramani, D, & Qin, H. "Reducing Warping in ABS 3D Printed Parts Through Infill Modification." *Proceedings of the ASME 2024 19th International Manufacturing Science and Engineering Conference. Volume 1: Additive Manufacturing; Advanced Materials Manufacturing; Biomanufacturing; Life Cycle Engineering*. Knoxville, Tennessee, USA. June 17–21, 2024. V001T01A038. ASME. https://doi.org/10.1115/MSEC2024-125181
3. **Shen, W.**, Zhang, Z., Okudan-Kremer, G., Qin, H., 2022. Origami-inspired infill pattern for additive manufacturing, *Manufacturing Letters*,Vol 33 Supplement, pp. 516-520, 50th SME North American Manufacturing Research Conference (NAMRC 50, 2022). https://doi.org/10.1016/j.mfglet.2022.07.066

4. **Shen, W.**, Liu, L., Jiang, X., Zhang, Z., Li, Q., Qin, H. "Multi-modal in-situ nondestructive testing of direct energy deposition and AI-enabled data fusion for quality assurance in remanufacturing", IISE Annual Conference, Seattle WA, 2022.
5. **Shen, W.**, Burnett, M., Zhang, Z., Kremer, G., Qin, H. "Structural reinforcement with origami-inspired infill patterns for additive manufacturing", IISE Annual Conference, Seattle WA, 2022.
6. **Shen, W.**, Jiang, X., Zhang, Z., Okudan-Kremer, G., Qin, H., "An origami-inspired fill pattern for additive manufacturing to reinforce the energy absorption performance", Flexible Automation and Intelligent Manufacturing International Conference, Detroit MI, 2022.
7. **Shen, W.**, Zhang, X., Liao, Y., Li, B. "Real-Time Structured Light Scanning Characterization of Surface Topography of Direct Energy Deposited 316l Stainless Steel", Manufacturing Science and Engineering Conference, West Lafayette IN, 2022
8. **Shen, W.**, Zhang, X., Jiang, X., Yeh, L-H., Zhang, Z., Li, Q., Li, B., Qin, H. "Surface Extraction from Micro-Computed Tomography Data for Additive Manufacturing", *Procedia Manufacturing*, *53*, pp.568-575, 49th SME North American Manufacturing Research Conference, Cincinnati OH, 2021. https://doi.org/10.1016/j.promfg.2021.06.057
9. Huang, Y., **Shen, W.**, Qin, H. "Electro-field-assisted direct-writing of origami-inspired Field's alloy to optimize structures of blood vessel stents", IISE Annual Conference, Seattle WA, 2022.
10. Jiang, X., **Shen, W.**, Qin, H. "Effects of Particle Size Distribution and Impact Speed on Printing Quality in Direct Energy Deposition", IISE Annual Conference, Seattle WA, 2022.
11. Liu, L., **Shen, W.,** Jiang, Y., Qin, H., Li, Q. "Melt pool temperature prediction in additive manufacturing with the data-driven models", IISE Annual Conference, Seattle WA, 2022.
12. Liu, L., **Shen, W.,** Jiang, Y., Jiang, X., Zhang, Z., Qin, H., Li, Q., "Melt Pool Temperature Prediction Based on Recurrent Neural Network for Directed Energy Deposition", ASNT 30th Research Symposium Conference Proceedings, St. Louis MO, 2022
13. Liu, L., **Shen, W.,** Krishnamurthy, A., Holland, S., Zhang, Z., "NDE Data Fusion between Inconsistent Geometries", ASNT 30th Research Symposium Conference Proceedings, St. Louis MO, 2022
14. Zhang, X., **Shen, W.**, Jiang, X., Li, B., Li, Q., Rivero, I., Qin, H. "In-situ Monitoring of Direct Energy Deposition via Structured Light System and Its Application in Remanufacturing Industry", IISE Annual Conference 2021.

SERVICES TO COMMUNITIES

- **Conference paper review**
  - *ASME, Manufacturing Science and Engineering Conference (MSEC)*
  - *SME, North American Manufacturing Research Conference (NAMRC)*
  - *IISE, IISE Annual Conference*
- **Journal paper review**
  - *Springer Nature, Scientific Reports*
  - *Springer Nautre, Progress in Additive Manufacturing*
  - *SME, Journal of Manufacturing Processes*
  - *ASME, Journal of Manufacturing Science and Engineering*
  - *Elsevier, Advanced Powder Materials*
  - *Elevier, Composites Part B: Engineering*

- *Journal of the Brazilian Society of Mechanical Sciences and Engineering*

MEMBERSHIP

- Institute of Industrial and Systems Engineering (IISE)
- American Society of Mechanical Engineering (ASME)
- American Society for Nondestructive Testing (ASNT)
- Society of Manufacturing Engineering (SME)