Tiansong Wang

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Ph.D. candidate in Industrial Engineering with hands-on work in advanced manufacturing, prototyping, and process optimization across cross-functional projects. Targeting 2026/2027 internships or entry-level roles in Manufacturing Engineering, Process Engineering, or Product Development/Management.

EDUCATION

North Carolina State University, Raleigh, NC 05/2023-06/2027
Ph.D. in Industrial Engineering (Advanced Manufacturing & Engineering Management)

Lawrence Technological University, Southfield, MI 08/2021-12/2022
Master of Science in Biomedical Engineering

Northeastern University, Shenyang, CHN 09/2016-07/2020
Bachelor of Science in Material Processing and Control Engineering

WORK EXPERIENCE

CAMEL Manufacturing Center, *Additive Manufacturing Intern* 05/2025-08/2025

- Supported end-to-end 3D printing production and delivery of medical surgical guides, including process evaluation, post-processing, and quality inspection; assisted with daily operations and external collaborations.
- Fabricated metallic lattice networks via laser powder bed fusion and built an evaluation framework linking overhang angle and geometry to enhance surface quality, producing reusable design and process guidelines.

VersaWare Technologies, *Founding Team Member* 06/2022-01/2023

- Built a user facing control and monitoring interface displaying 20+ system parameters, including ~10 key real-time signals; standardized a repeatable validation workflow to support product iteration and deployment readiness.
- Drove full-device prototyping and integration (hardware + software) to ensure release readiness; delivered live demos at CES 2023 and incorporated partner/customer feedback into subsequent product iterations.

Northeastern University, Innovation Center, *Communication Director* 02/2018-02/2019

- Led end-to-end planning and stakeholder coordination for 2 large scale entrepreneurship events and a speaker series across 3 universities; partnered with startups/corporate sponsors and attracted 500+ attendees.

PROJECT EXPERIENCE

North Carolina State University, Raleigh, NC 05/2023-Present

- Developed a conformal transfer printing process for circuit fabrication on complex 3D surfaces, replacing conventional multi-step workflows and reducing processing time by ~80% with >95% transfer success rate.
- Built and validated a vehicle-mounted, real-time air pollution monitoring system with 8 sensors; integrated the full device into a Dodge Challenger and verified performance through 2-hour on-road testing with 2-second sampling, including sensor mounting, power management and harness routing for robust operation under vibration.
- Developed flexible, fMRI-compatible neural probe systems using inkjet-printed organic semiconductors; integrated multi-modal sensors and micro-batteries to eliminate external power dependencies and support sensing/modulation use cases, with in vivo validation in a mouse model.

Lawrence Technological University, Southfield, MI 08/2021-12/2022

- Developed a PNIPAM–Au nanoparticle LSPR temperature sensor by leveraging thermally induced PNIPAM swelling/shrinkage to modulate nanoparticle spacing and tune the LSPR optical response.
- Led a senior design project on a biocompatible 3D-bioprinted wound mesh; owned project scope and timeline to deliver 2 prototype iterations and coordinate in vitro testing demonstrating measurable antibacterial activity.

SKILLS

Manufacturing & Process: Photolithography, Plasma Etching, Laser Cutting, 3D Scanning, FDM, SLA, SLS, Bioprinting, Inkjet Printing, Confocal Microscope, SEM, TEM, XRD, Metrology Platform, CNC Machining.
Software & Management: ImageJ, AutoCAD, MATLAB, Simulink, Python, C++, G-code, Arduino, Qt Creator, Materials Studio, Digital Twin, GitHub, PLC programming, MS Project, WBS, Agile framework

PUBLICATIONS AND AWARDS

Investigation of waveform parameters in inkjet printing, **Flexible and Printed Electronics**, 2025
Advanced Neural Probes toward Multi-Modal Sensing and Modulation, **Advanced Sensor Research**, 2024
Epidermal Colorimetric Monitoring of Physiological Signals. **Advanced Healthcare Materials**, 2023
Materials with Tunable Optical Properties for Wearable Epidermal Sensing. **Advanced Materials**, 2022
CES 2023-Editors' Choice Award, USA TODAY NETWORK