Tiansong Wang

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EDUCATION

North Carolina State University, Raleigh, NC 05/2023-06/2027
Ph.D. in Industrial and Systems Engineering (Advanced Manufacturing & Project Management)
Main courses: Project Management, Industrial Automation, Additive Manufacturing, Production and Service Systems

Lawrence Technological University, Southfield, MI 08/2021-12/2022
Master of Science in Biomedical Engineering
Main courses: Biocompatibility, Microcontrollers and Biomedical Sensors, Bio-signals &Systems

Northeastern University, Shenyang, CHN 09/2016-07/2020
Bachelor of Science in Material Processing and Control Engineering
Main courses: Metallography and Heating Process, Material Shaping Crafts, Solidification Theory

WORK EXPERIENCE

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

- Designed and implemented a Qt-based graphical user interface, integrated it with an embedded processor, and performed system loop testing to validate real-time performance, stability, and reliability under operational load
- Assisted in building Linux systems using the Yocto toolchain and supported firmware deployment
- Represented VersaWare at Consumer Electronics Show (CES) 2023; led technical demos and engaged potential partners during seed funding, highlighting product-market fit and technical differentiators

Lawrence Technological University, *Teaching Assistant* 12/2021-08/2022

- Delivered lab instruction on photolithography, microfluidics fabrication, ensuring safety cleanroom compliance
- Led biomedical workshops for high school students during a summer STEM camp, guiding them through hands-on experiments to inspire early interest in science and demonstrate real-world biomedical applications

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

- Organized high-impact events and speaker series for a student entrepreneurial group in China, increasing engagement across multiple universities and facilitating collaboration with local startups and corporate partners

PROJECT EXPERIENCE

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

- Developed flexible fMRI-compatible neural probes using inkjet-printed organic semiconductors; integrated multi-modal sensors to monitor signals enhancing sensitivity and selectivity for brain perception and modulation
- Developed integrated micro-batteries for neural probes, eliminating the need for external power sources
- Developed a vehicle-mounted air pollution monitoring system focused on collecting real-time environmental data; integrated the system into a Dodge Challenger and validated performance through on-road testing
- Developed a conformal transfer printing method that replaced conventional multi-step printing workflows, enabling simplified circuit fabrication on complex 3D surfaces with markedly reduced processing time
- Supervised and guided 11+ undergraduate researchers from diverse academic backgrounds, leading them to successfully complete research projects on flexible electronics, sensors, and batteries.

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

- Engineered FDM copper printing and heat treatment for industrial manufacturing applications
- Directed a senior design project focused on creating a biocompatible 3D-bioprinted wound mesh using natural polymers with inherent antibacterial properties, aimed at improving skin regeneration and healing efficiency

SKILLS

Manufacturing and Materials: Photolithography, Plasma Etching, Laser cutting, Thermal & Mechanical Testing, 3D Scanning & Modeling, FDM, SLA, SLS, Bioprinting, Inkjet printing, Confocal Microscope, SEM, TEM, XRD, Metrology Platform, CNC Machining. **Software**: MS Project, ImageJ, TinkerCAD, AutoCAD, MATLAB, Simulink, Python, C++, G-code, MicroFab Jetlab, Arduino, Qt creator, Materials Studio, Digital Twin, PLC programming

PUBLICATIONS AND AWARDS

Dynamic Hydrogels with Tunable Mechanics for 3D Organoid Derivation, **Small**, 2025
Advanced Neural Probes toward Multi-Modal Sensing and Modulation, **Advance 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