

Leo Fang

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EDUCATION

Binghamton University | Vestal, NY

Master of Science in Mechanical Engineering (4+1 Accelerated Program)

Expected Grad: May 2028

Bachelor of Science in Mechanical Engineering (ABET Accredited)

Expected Grad: May 2027

Relevant Coursework:

Modern Robotics, Engineering Design, Control Systems, HVAC, Engineering Analysis, ME Programming, Statics, Solid Mechanics, Dynamics, Electric Circuits, Thermodynamics, Fluid Mechanics, Mechanical Vibrations, Heat Transfer

TECHNICAL SKILLS

Technical: Solid Works, AutoCAD, Fusion 360, MATLAB, TinkerCAD, AWS, Lean Manufacturing, Statistical Process Control (SPC), Design for Manufacturability (DFM), Root Cause Analysis, Design of Experiments (DOE)

Programming: MatLab, Python, Arduino, Java, C++, LaTeX,

Manufacturing: 3D Printing, Electro Spinning, Assembly, Laser Cutter, Tensile Testing

WORK EXPERIENCE

Ace Collectables LLC | Partner, Supply Chain, Process Engineering & Operations

April 2026 - Present

- Co-manage procurement, inventory planning, and warehouse operations for a live-commerce collectibles business maintaining \$300K+ in inventory while processing 500+ customer orders and 2,000+ SKUs daily.
- Developed an internal warehouse management application that automated order classification by shipping requirements, reducing manual sorting time by approximately 75% and saving 6+ labor hours per day.
- Engineered a SKU-level inventory demand reporting system that enabled daily inventory staging, reducing fulfillment errors by over 95% and improving order accuracy during high-volume operations.
- Redesigned warehouse workflows by implementing a dedicated daily picking inventory process, eliminating recurring fulfillment losses exceeding \$15K while strengthening inventory control and quality assurance.

Nanomechanics Laboratory | Undergraduate Research Assistant

October 2025 - January 2026

- Engineered a PLA-BN composite with 35% higher tensile strength through DOE-based optimization of processing parameters.
- Applied SPC to 50+ microscopy datasets, improving fiber consistency by 20% through detailed morphology analysis.
- Performed root cause analysis to reduce manufacturing defects by 15% while improving overall material yield.
- Standardized testing protocols with cross-functional engineers, reducing rework by 12% and improving process reproducibility.

Binghamton Motorsports Formula SAE Electric Vehicle (FSAE EV) | Suspension Apprentice

August 2025 - Present

- Analyzed suspension load distribution to guide component design, improving vehicle handling stability by 10%.
- Modeled suspension spacers and mounting hardware in SolidWorks, improving alignment accuracy and reducing wear by 40%.
- Collaborated with multidisciplinary engineering teams to optimize suspension geometry and enhance vehicle dynamics.
- Performed DOE-based validation of suspension components, increasing system reliability while reducing failure rates by 12%.

ENGINEERING PROJECTS

Wonder Wheel - Educational Toy for the Blind | Mechanical Design & Prototyping

June 2025 - January 2026

- Collaborated with mentor Robert Mascatello and George Mason University to design the Wonder Wheel, a Braille-based STEM toy that helps blind children engage with tactile questions and answers to support interactive learning
- Fabricated a functional 3D-printed prototype integrating a rotating cake spinner base with a multi-window question & answer plate, enabling blind children to match Braille questions to answers by touch
- Presented the prototype at the Virginia School for the Deaf and the Blind, where children tested the toy and provided feedback

Horizons Challenge | NASA xFoundry

June 2025 - August 2025

- Participated in a NASA-backed innovation sprint focused on astronaut health monitoring for future lunar and Martian missions.
- Researched low-power wearable diagnostic systems for autonomous crew health monitoring in resource-limited environments.
- Defined a mission-aligned problem statement for autonomous biomarker analysis and scalable wearable health technologies.
- Collaborated with researchers using NASA documents, academic literature, and industry reports to evaluate technical feasibility and applications.

Binghamton Rover Team | Drive Team Member

August 2025 - Present

- Designed lightweight modular mounting systems, reducing subsystem weight by 50% while improving airflow and reliability.
- Optimized gearbox packaging and wire routing, reducing assembly time by 25% through improved integration.
- Evaluated rover performance and operator feedback to refine suspension design, improving handling stability by 15%.
- Applied Design for Manufacturing (DFM) principles to improve manufacturability, reducing fabrication time by 20%.