

LUKE TOWERY

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EDUCATION

GEORGIA INSTITUTE OF TECHNOLOGY

Atlanta, Georgia

Bachelor of Science in Mechanical Engineering (BSME)

Expected December 2025

- GPA: 4.0, College of Engineering Honors Award for 2023-2024 (Best academic record of Junior ME students)

CERTIFICATIONS / SKILLS

Key Skills: Rapid Prototyping, Design for Manufacturing, Structural FEA, Project Management, Technical Documentation
Software: SolidWorks, Siemens NX, DesignX, 3D Printing Slicers, MATLAB, Arduino, Microsoft Suite, Smartsheet
Certifications: GD&T (ASME Y14.5-2009 Technologist Exam in Progress), SolidWorks Certified Sheet Metal Professional

EXPERIENCE

DELTA AIR LINES, TECHNICAL OPERATIONS

Atlanta, Georgia

Tooling Engineering Co-op

May 2025 – August 2025

- Designed a welded hoist adapter to lift 6-foot by 6-foot chemical cleaning baskets for turbofan engine parts, using hand calculations for stress and SolidWorks Simulation to ensure yield resistance for loads of up to 2500 lbs.
- Mitigated risk of multi-day disassembly setbacks due to defects in the oil tubes of an aircraft engine bearing by creating a custom pressure decay testing fixture using 3D scanning and DesignX to precisely match tube port geometry
- Improved the design of and created a manufacturing drawing package for a welded fixture to carefully raise and lower the sliding tube of the A220 nose landing gear during installation and removal

Additive Manufacturing Co-op

January 2024 – December 2024

- Designed and fabricated 26 additively manufactured tools for engine and aircraft maintenance, including protective covers, part masking, fixtures and mounts, to prevent part rework, decrease maintenance costs, and increase technician efficiency
- Invented a set of ergonomic handles, being produced and distributed to all 6000+ aircraft maintenance technicians, that is used with disposable scrapers to increase users' leverage, comfort, and throughput while reducing hand strain and injuries
- Developed standard operating procedures and oversaw maintenance of BigRep Pro 2 cubic-meter 3D printer

INVENTION STUDIO AT GEORGIA TECH

Atlanta, Georgia

3D Printing Master, Prototyping Instructor

February 2022 – Present

- Manage the workflow, training, and maintenance of our fleet of 24 Bambu Lab X1E (FDM), 8 Formlabs Form 4 (SLA), Formlabs Fuse 1 (SLS) and Markforged Mark 2 3D printers to print over 10,000 student/faculty parts annually
- Trained over 200 users to safely operate waterjets, laser cutters, soldering irons and fabrication tools for wood and metal

FACTORY AUTOMATION SYSTEMS

Atlanta, Georgia

Mechanical Engineering Intern, Automation and Mechatronics

May 2023 – August 2023

- Developed a ladder logic PLC program routine in Studio 5000 for James Hardie that interacts with operators to control a combination of valves and motors in one step of their Hardie Plank plant using feedback from digital and analog sensors
- Tested the electrical connections and input/output functionality of over 50 PLC control panels, making corrections when necessary to ensure consistency with electrical drawings, ladder logic programs, and P&IDs for efficient plant installation

ENGINEERING PROJECTS

BIO-INSPIRED PORTABLE PUSH DOOR OPENER FOR WHEELCHAIR USERS

March 2025 – May 2025

- Developed a proof-of-concept for a portable device that assists manual wheelchair users to safely and comfortably open non-compliant heavy push doors, inspired by the biological mechanisms within bat feet and human legs

3D PRINTED SAXOPHONE KEYS FOR USERS WITH LONG FINGERS

January 2025 – April 2025

- Modelled a saxophone in Siemens NX and designed three elongated 3D-printed nylon keys to allow musicians with long fingers to play more comfortably, validating their resistance to yielding with structural NX Nastran simulations

OBJECT-DISTRIBUTING COMPETITION ROBOT

August 2022 – December 2022

- Designed, fabricated, and programmed our robot's drivetrain and its robust subsystems that drop a ring onto a post and precisely push blocks outward on competition tracks with varying dimensions and field conditions

LEADERSHIP

LAMBDA CHI ALPHA FRATERNITY, BETA KAPPA ZETA

Atlanta, Georgia

President, Founder

January 2024-December 2024

- Re-founded the Georgia Tech chapter to create a brotherhood centered around mutual respect, authenticity, servant leadership, and collaborative growth, increasing membership from 4 to over 100 members in 2 years
- Mentored 12 officers and oversaw organizational operations, leading chapter to earn the Member and Leadership Development, Brotherhood, and Educational Programming awards out of all 32 Georgia Tech fraternities in 2024