

Tyler Hayes

Charlotte, NC | (336) 909-8810 | tylerhayesengineer@gmail.com | tylerhayesengineering.com | LinkedIn

EDUCATION

University of North Carolina at Charlotte, Charlotte, NC

Master of Science in Mechanical Engineering
Concentration in Metrology and Manufacturing
(Current GPA: 4.0/4.0)

May 2026

Bachelor of Science in Mechanical Engineering
Honors: Magna Cum Laude (GPA: 3.73/4.0)

May 2025

RELEVANT COURSEWORK

Renewable Energy Technologies and Applications | Virtual Machining for Part Quality | Digital Manufacturing | Finite Element Analysis | Advanced Metrology | Additive Manufacturing of Polymer-Based Composite Materials | Intelligent and Sustainable Machining Processes

SKILLS

- Proficient in CAD packages such as Creo, Fusion 360, Solidworks, and OnShape
 - Hands-on experience programming and deploying Arduino and Photon 2 microcontrollers
 - Proficient in designing, optimizing, and slicing models to 3D print
 - Proficient in FEA calculations and Abaqus simulations
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RELEVANT EXPERIENCE

TRC Companies, Inc. Huntersville, NC

Power Distribution Intern

May 2024 - August 2024

- Collected data on distribution poles in the field
- Created plans to attach new communication cables to distribution poles in SpidaCALC
- Designed underground routes for fiber optic cables
- Shadowed power design engineers to learn how to design poles according to Duke Energy specifications

MEGR-2156 Sophomore Design, UNC Charlotte, Charlotte, NC

Teaching Assistant

August 2023 - December 2022

- Assisted students with their work over virtual office hours
- Graded student-submitted design portfolios
- Assisted the professor in creating new assignments
- Enhanced knowledge of the engineering design process, CAD modeling, and solid mechanics principles

ETGR-1101 Intro to Engineering Technology & Construction Management, UNC Charlotte, Charlotte, NC

Teaching Assistant

August 2022 - December 2022

- Assisted students with their work both in class and over virtual office hours
 - Graded various engineering assignments submitted by students
 - Provided advice to students about their majors
 - Enhanced knowledge of basic engineering design principles and equations
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PROJECTS

Senior Design Capstone Project, Siemens Energy, Charlotte, NC

August 2024 - May 2025

- Developed a fixture to streamline the manufacturing of turbine gland seals and housings
- Reduced preparation time and improved the ease of manufacturing of gland seal components
- Created an immersive virtual reality experience to communicate design intent and functionality effectively
- Produced a to-scale 3D-printed prototype to demonstrate functionality further

Junior Design Capstone Project, UNC Charlotte, Charlotte, NC

January 2024 - May 2024

- Collaborated with a 5-member team to design and manufacture an autonomous color-sorting robot
- Designed and 3D printed a custom gripper assembly for a 6-DOF pick-and-place robotic arm
- Contributed to wiring and programming of robot control systems using Arduino and C++

IoT Heart Message Box, Personal Project, Charlotte, NC

February 2025

- Designed and 3D printed a heart-shaped box in Fusion
- Programmed and wired a Particle Photon 2 microcontroller to control an LCD display
- Implemented remote text transmission over Wi-Fi using the Particle Cloud platform