Austin South

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US Secret clearance, active (July 2021–present)

Education

University of North Carolina at Charlotte **GPA: 3.97 / 4.00** December 2022

B.S. in Mechanical Engineering

• University Honors Program • University Scholars Program (Albert Engineering Leadership) • Engineering Honors Program

Experience

Mechanical Engineering Testing and Analysis Co-op June 2021- January 2022

General Dynamics Mission Systems, Greensboro NC

GDMS is creating unique solutions for undersea communications, monitoring, and mission support

- Operated test equipment, analyzed results, created test reports, and presented technical analysis for a novel marine deployment system
- Verified extensive deliverable system requirements using shock response spectrum data and sensor clusters in a testbed setting
- Worked closely with engineers, technicians, and scientists to ensure quality documentation for deliverables on a $253M government contract
- Persevered with problem-solving efforts to configure and maintain a secure IP network camera system for test analysis & design improvement

Biomedical Optics Laboratory Researcher May 2020- May 2021

UNC Charlotte Physics Dept, Charlotte NC

- Constructed, calibrated, and troubleshot electrical and optomechanical testing and validation equipment for laboratory studies
- Used adaptive problem-solving techniques to resolve complex issues with test equipment hardware, software, and procedures
- Published results from FEA research using MATLAB for data visualization as 1st author in a peer-reviewed paper in Optical Engineering

Published work as an author on four papers. Publication record: https://orcid.org/0000-0002-9968-7177

Product Development Intern November 2019- January 2020

Enventys Partners, Charlotte NC

Focused on bringing innovative ideas to life, Enventys Partners takes ideas from clients, designs the product, patents it, and brings it to market

- Created and tested prototypes for products from engineering drawings and requirement descriptions from engineers for use in patent apps
- Utilized industrial manufacturing techniques to fabricate beta prototypes, making adjustments and documenting them for optimal design
- Worked with engineers and machinists through the entire product development process from idea to fruition

Robotics Based Smart City Infrastructure Researcher August 2019- May 2020

UNC Charlotte Engineering Dept, Charlotte NC

- Researched hardware requirements and electrical component compatibility for multi-agent robotics research (Arduino and Pololu Zumo)
- Modeled and fabricated initial smart-city research testbed components (scaled 12'x20' map and building models)

Engineering Projects

Lead Design Chair January 2019- Present

The Helping Hand Project, Charlotte NC

The HHP club focuses on the inclusion and encouragement of children with limb differences through customized recreational prosthetics

- Optimized prosthetics for children based on their feedback by modeling the 3D printed mechanical limbs in Blender and Simplify 3D
- Facilitated involvement for 40+ people in the design of biomedical prosthetics for children with limb differences

Rural Electrification Project Engineer June 2019- August 2019

WindAid, Trujillo **Peru**

Providing clean and reliable energy for remote areas in Peru without access to traditional sources of energy is the purpose of WindAid

- Collaborated with a multicultural team installing a turbine and wiring all powered lighting for the remote Jesús Maria Community Center
- Welded joints and supports for a 20ft 500W turbine tower and created resin casted blades with steel, foam, fiberglass, and carbon fiber

FIRST Robotics Alumni August 2010 - May 2018

FRC, FTC, and FLL, Charlotte NC

- Programmed, designed, built, tested, analyzed and improved competitive autonomous and tele-operated robots weighing up to 125 lbs
- Managed a team with diverse skillsets working cohesively to perform in an international robotics competition

Skills

Design: **Solidworks**, Creo Parametric, Autodesk Inventor, Simplify 3D, Microsoft (Excel, Word, PowerPoint, Project, Visio)
Digital: Java, Solidworks FEA, RobotC, C/C++, HTML, **MATLAB,** LabView, Multisim, IP networks
Physical: Welding, wiring/soldering, milling, 3D printing, laser cutting, waterjet cutting, thulium fiber lasing, optomechanics

Achievements

- Graduate of the Engineering **Leadership** Academy at UNC Charlotte (August 2019- May 2021)
- Awarded an undergraduate **research fellowship** from the Charlotte Research Scholars Program (Summer 2020)
- Two-time Recipient of the Chick-Fil-A Emerging Leaders Scholarship for **excellence** in the workplace (2018-2019)
- Attained the rank of **Eagle Scout** in the Boy Scouts of America (June 2016)