

Austin South

704.968.7971 | AustinAlexanderSouth@gmail.com | LinkedIn: [in/AustinSouth/](https://www.linkedin.com/in/AustinSouth/) | Charlotte, NC

US Secret level 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

Summer 2021- Present

General Dynamics Mission Systems Group, Greensboro NC

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

- Planned and led a team in the construction of a 60-ft test launching stage for undersea deliverables on a \$247M government contract
- Persevered with problem solving efforts to configure the secure site-wide IP network camera system for test analysis & design improvement
- Studied shock response spectrum data to verify a novel marine deployment system with a team of engineers, technicians and scientists

Biomedical Optics Researcher

Summer 2020- Spring 2021

UNC Charlotte Physics Dept, Charlotte NC

- Created SolidWorks **FEA** simulations to study the behavior of miniature layered optical fiber models for laser lithotripsy applications
- Designed testing and validation laboratory studies using electrical test instruments and opto-mechanical equipment
- Published results from research using MATLAB for data visualization as 1st author in a peer reviewed paper in Optical Engineering

Published author on four papers, Publication record: <https://orcid.org/0000-0002-9968-7177>

Product Development Intern

Winter Break 2019

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.

- Tested and optimized structural design for products to be used in patent applications such as the Miracle Mop 2.0
- Utilized industrial manufacturing techniques to fabricate beta prototypes
- Worked with engineers and machinists through the entire development process from idea to fruition

Smart City infrastructure Researcher

Fall 2019- Spring 2020

UNC Charlotte Engineering Dept, Charlotte NC

- Analyzed local urban areas for compatibility with smart city simulation
- Created simplified scale map of Charlotte in **Inkscape** in printable format and worked with vinyl designers to create a 12'x20' print
- Reverse engineered the simulation vehicles and infrastructure from previous case studies with Arduino and Pololu Zumo robots

Engineering Projects

Design Chair

Spring 2019-Present

The Helping Hand Project, Charlotte NC

The HHP club focuses on 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

Summer 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

Fall 2010 - Spring 2018

FRC, FTC, and FLL, Charlotte NC

- Programmed, designed, tested, analyzed and improved competitive autonomous and remote 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)

Programming: Java, 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 (Fall 2019-Spring 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)