# Jared Holland

Sylva, North Carolina 28779

#### About me

A results-driven engineering professional with a strong foundation in Mechanical Engineering and a keen interest in the advancement of aerospace technology, seeking to leverage my years of hands-on industry experience and education to contribute to the NASA Langley Research Center.

### **Areas of specialization**

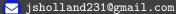
3D CAD Software • CFD Simulation • FEA Analysis • Python • MATLAB/Octave • 3D Printing Technology • Mechanical Drawings • CNC Machining

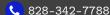
#### Soft Skills

Teamwork Oriented • Strong Communicator • Leadership • Organized

#### Interests

Blacksmithing, 3D printing, Robotics, CNC Machining, Hiking, Plants, Guitar





# **EMPLOYMENT HISTORY**

## 2023-2024

#### **Leidos: Power Distribution**

Power Distribution Engineer · Asheville, NC ?

- Developed power pole layouts in collaboration with Duke Energy, demonstrating expertise in engineering design principles and adherence to industry standards.
- Managed bill of materials to ensure the reliability and efficiency of distribution circuits, contributing to the seamless operation of the North Carolina power grid.
- Utilized Maximo to facilitate effective communication and coordination
  of permitting efforts and vital design information, optimizing construction processes for field personnel and minimizing project delays.
- Performed field survey work to inspect and gather data on each power pole assigned to the Leidos Asheville office so that the engineering team had sufficient data to start their designs.
- Leveraged ArcGIS to generate preliminary designs, proactively identifying and addressing potential environmental, structural, and permitting challenges before initiating the formal design processes.

#### 2022-2023

#### TekTone: Sound & Signal

MECHANICAL ENGINEERING INTERN · Franklin, NC 💡

- Led the mechanical design for two anti-vandal nurse call stations, overseeing the entire life cycle from conceptualization to successful product launch. Gantt Project was utilized heavily for efficient project management during this assignment. It was indespensible in properly allocating team resources and ensuring timely achievement of project milestones.
- Spearheaded the usage of 3D printing technology for use in the fabrication of high-quality test fixtures that enhanced production processes and turn around times. During the design phase collaboration with the production floor workers and machine shop personnel was intstrumental to ensure that each test article or tool was built to fit their design needs and to ensure manufacturability.
- Implemented 3D printing technology that aided in producing corrective parts for high volume products resulting in savings; avoiding shipping issues and lead times in injection mold fabrication.
- Conducted research projects using the scientific method that involved root cause analysis among other optimization studies. These projects used software tools such as R Studio, Python, and MATLAB/Octave to produce high-quality graphs and figures that were then organized in LATEX for presentation to management and interested parties.

#### 2019-2022

#### TekTone: Sound & Signal

MANUFACTURING ENGINEERING INTERN · Franklin, NC 💡

- Worked with other technicians to run various parts of the automation line to ensure we met the production quota. This fostered a culture among the automated assembly line workers of inclusiveness, excellence, and teamwork. We viewed our fellow workers' success as our own success. Our technician lead never had to worry about our competence.
- Trained to operate and maintain the Panasonic pick n place equipment, Automated Optical Inspection equipment, and SPEA 4080 high-production flying probe tester.
- Developed Python script modules for KiCAD circuit board design software, enabling seamless communication between engineering and production teams. These modules generated usable files for the Panasonic automation line and the SPEA 4080, improving design efficiency and reducing errors in manufacturing.
- Demonstrated initiative and dedication, progressing from an electronics assembly worker to a Manufacturing Engineering Intern within a 2 months, showcasing adaptability and a strong work ethic.

#### 2019-2023

#### **Bachelors In Mechanical Engineering**

WESTERN CAROLINA UNIVERSITY · Cullowhee, NC 9

#### **CubeSat Capstone Project**

fall and spring senior semesters

- Hand picked by the WCU rapid center staff for my demonstrated knowledge and competence in heat transfer analysis and structural design.
- Led a multidisciplinary team in the development of the mechanical design for the CubeSat frame.
- Conducted extensive preliminary research in CubeSat operational systems. We took the necessary time to evaluate CubeSat flight system hardware devices such as boosters, reaction wheels, magnetorquers, Inertial Measurement Units, and Startracker amongst some of the spacecraft systems we reviewed. This contributed to the successful implementation of hardware within our allocated time frame without wasting our budget or time.
- Utilized programming skills in VS Code to support electrical engineering team members with logic board programming and conducted design audits of circuit boards assessing system performance, layout, operational limits, reliability, and manufacturability using KiCAD circuit board design software.
- Preformed the design and fabrication of the mechanical frame in the Western Carolina University machine shop, ensuring compliance with project requirements and specifications provided by ISO17770.
- Facilitated communication with sponsors and engineering mentors, providing regular updates on the firmware, mechanical design, and the fabrication progress. This communication was pivotal in guiding project direction so that our team met sponsor objectives.

#### **Academic Achievements**

- · Dean's List recognition for outstanding academic performance.
- · Graduated with a minor in math.

### **Technical Skills Acquired**

- Proficiency in Finite Element Analysis (FEA) for gantries and steel structures in both CREO parametric and Ansys.
- Advanced proficiency in 3D modeling and assembly using Creo Parametric and Autodesk Inventor.
- Foundational understanding of Computational Fluid Dynamics (CFD) analysis using Ansys software.
- Hands-on experience in waterjet cutting production process and maintenance.
- Conducted an independent study with Tektone: Sound & Signal to determine the thermal loads on their nurse call system hardware. This required extensive use of MATLAB and FLIR devices to determine if the electronics needed extra ventilation or cooling in extreme heat from poorly designed server rooms.
- Assisted in repair, modification, and maintenance of 3D printers within the 3D print lab.
- · Utilized CNC Machining for milling wood and plastic parts.
- · Learned Aluminum TIG welding for the CubeSat project.

## 2015-2019

## Associates in Science

Southwestern Community College · Sylva, NC 💡

- Developed proficiency in 3D printer design and modification, culminating in the construction of a customized 3D printer from scratch.
- Applied knowledge in hobby electronics and utilized KiCAD for electronics design projects.
- Acquired practical skills in metalworking and blacksmithing, including basic practices for MIG and ARC welding techniques.
- Gained proficiency in programming languages including C++, C#, Python, Arduino, and G-code, enabling customization of custom 3D printer firmware.
- Developed strong foundations in 3D CAD software such as FreeCAD, Autodesk Inventor, and Blender, utilizing these skills to design and produce 3D printable products that funded workshop upgrades and materials.

# SOFTWARE EXPERIENCE AND TECHNICAL SKILLS

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	Python	LaTeX	CREO Parametric	KiCAD
	FreeCAD	CREO: FEA analysis	ANSYS	Fabrication
Ī	R Studio	Octave	MATLAB	C++
Ī	(FDM) 3D Printing	Maximo	Water Jet Cutting	Product Development
	Mechanical Drawings	VS Code	3 Axis CNC Machining	Circuit Board Manufacturing

# CERTIFICATES

June 2023 Jan 2023-Feb 2023

6 Axis Robotic Arms: ASME Water Jet Cutting: Western Carolina University OnShape: Detailed Drawings OnShape: Simulation June 2024 June 2024

# REFERENCES

Leidos  Hank Seaman (Distribution Mentor):	980-253-5045	
Tektone  Kim Hammaker (VP manufacturing):	828-371-4654	
WCU  Wes Stone (Director of Engineering + Technology):	wstone@email.wcu.edu, 828-227-2181	
WCU  Enrique Gomez (CubeSat Project Sponsor):	egomez@email.wcu.edu, 828-227-2718	
WCU  Scott Rowe (Fluid Dynamics Professor):	srowe@email.wcu.edu, 314-601-4836	