

# Solomon Andrews

**Title:** Mechanical Design Engineer

+1-404-542-5749

Atlanta, GA

[monsoloand@gmail.com](mailto:monsoloand@gmail.com)

[in /Solomon-Andrews](https://www.linkedin.com/in/Solomon-Andrews)

[solomonandrews.com](https://www.solomonandrews.com)

## Education

### Florida A & M University

*B.S. in Mechanical Engineering, FAMU-FSU College of Engineering*

**2020 – 2024**

Tallahassee, FL

## Work Experience

### HANWHA Q CELLS

*Silicon Wafer Equipment Engineer, Solar Panel Wafer Manufacturing*

**Jan 2025 – Present**

Cartersville, GA

- > Develop SOPs/risk assessment guides monitoring technician safety, training, and operational efficiency.
- > Designed and implemented PLCs to optimize solar wafer production processes.
- > Enhanced PLC UI/UX and SCADA systems to streamline monitoring and diagnostics.
- > Maintained automated heavy manufacturing machinery to ensure seamless daily operations.

### Sandia National Laboratories

*R&D Chemical Engineer, CINT Microfluidic Processing*

**Jun 2024 – Aug 2024 (3 Months)**

Albuquerque, NM

- > Designed custom microfluidic chips for polymer solution processing.
- > Optimized chemical processes to produce high-quality polymers efficiently through nanotechnologies.
- > Integrated advanced testing technologies to validate microfluidic chip designs.

### Mayo Clinic

*Mechanical Design Engineer, Suture Pen*

**Aug 2023 – May 2024 (1 Year)**

Jacksonville, FL

- > Developed a compact suturing device to reduce neurosurgery time, fatigue, & provide convenience.
- > Designed a 360° rotational gearbox for minimal surgeon effort using DC motor, encoder, proximity sensors, & etc.
- > Engineered a single-use cartridge and ergonomic housing for surgical efficiency.
- > Streamlined wound-closure workflows, enhancing operating room efficiency, risk assessments & analysis.

### Honeywell Kansas City National Security Campus

*Student Engineer Intern III/Remote R&D Mechanical Design Engineer, Advanced Rapid Manufacturing CNC System*

**Jun 2023 – Apr 2024 (1 Year)**

Kansas City, MO

- > Designed and built a milling & sensor embedding tool for 4-extruder Tool changing 3D printer.
- > Created G-code for precise and efficient tool changing of 4-extruder ToolChanging 3D printer.
- > Designed and built a camera metrology module to analyze DIW printing for micron-level precision.
- > Created reports, 3D CAD models (Creo/SolidWorks), and conducted data analysis in R&D Department.

### NASA Marshall Space Flight Center

*Mechanical Design Engineer, FLATSAT Lunar Flashlight*

**Jun 2022 – Aug 2022 (3 Months)**

Huntsville, AL

- > Designed, assembled, and tested the FlatSat propulsion system with five thrusters.
- > Conducted testing on components like regulators, pressure transducers, and flight controllers ensuring reliable orbit
- > Integrated the propulsion system into the Lunar Flashlight, successfully launched to the moon on a SpaceX Falcon 9

## Skills

**Design Tools:** Creo Parametric, SolidWorks, Autodesk, AutoCAD, etc.

**Programming & Analysis:** Excel (VBA & Macros), C++, Python, MATLAB, R, CNC G-Code, PLC, HTML/CSS, & etc.

**Physical Skills & Devices:** GD&T, Prototyping, Polymers, SEM, CNC Machining, Circuitry, Sketching, & etc.

## Professional Research Experience

### **FAMU-FSU High Performance Research Institute**

**Aug 2023 – Aug 2024 (1 Year)**

*Student Researcher, Additive Manufacturing Compliant Tool Changer*

*Tallahassee, FL*

- › Led the development of a tool-changing system for CNC only using designed compliant mechanisms.
- › Designed a flexible system to integrate tools like Nordson Dispensing Pump, extruders, and milling tools.
- › Explored the use of augmented reality (AR) through PTC Vuforia for remote machine operation and training.
- › Successfully tested the system, with groundwork laid for future refinement and potential industrial application.

### **FAMU-FSU Aero-Propulsion, Mechatronics, and Energy Center**

**Aug 2022 – May 2023 (1 Year)**

*Student Researcher, Model-Based Design & Control of Soft Hydraulic Robots for Uncertain Environments*

*Tallahassee, FL*

- › Designed robotic systems mimicking the movements of lampreys, integrating mechanical and fluid dynamic principles.
- › Conducted experimental studies to assess the effectiveness of soft hydraulic robots in uncertain environments.
- › Analyzed control systems to replicate biological movements and applied them to autonomous robots.
- › Contributed to the development of innovative techniques to enhance soft robotics performance in real-world applications.

### **FAMU-FSU High Performance Research Institute**

**May 2021 – Dec 2023 (3 Years)**

*Student Researcher, (Copper/Metallic)Cu-Ink Adhesion Testing*

*Tallahassee, FL*

- › Conducted tensiometry studies on conductive ink rheology, surface energy, and adhesion force.
- › Utilized copper-based conductive ink to develop functional circuits and 3D-printed solar cells.
- › Researched the impact of ink adhesion on circuit performance for potential use in wearable electronics.
- › Developed expertise in material properties and testing methods relevant to advanced material science.

### **FAMU-FSU High Performance Research Institute**

**September 2021 – May 2022(1 Year)**

*Student Researcher, Printed Powerless Sensors Structures for Aerospace Environment*

*Tallahassee, FL*

- › Designed powerless structural health monitoring systems using additive manufacturing techniques.
- › Investigated mechanoluminescence sensors for in-situ monitoring of aerospace structures.
- › Embeds triboluminescent optical fiber (ITOF) sensors into 3D-printed carbon-fiber composites for reactions.
- › Contributed to aerospace applications by enhancing monitoring capabilities for structural integrity.

## Recognition & Certifications

**Ted Rogers – Intuitive Surgical Scholars & Fellowship Program**  
**National Society of Black Engineers (NSBE)**  
**PLC Applied Logic Certification**

Fall 2023 – Spring 2024  
August 2019- Present  
January 2025



Figure 1: My Career Highlights