

# Samuel Bollman

Chicago, IL (Relocating to Bay Area) | [bollmansa@gmail.com](mailto:bollmansa@gmail.com) | (616) 250-8483

## TECHNICAL SKILLS

- **Languages:** C/C++, Python, MATLAB
- **Hardware:** Schematic design (OrCAD, Allegro), SPICE simulation, ESP32, PCB bring-up & validation, Bench testing (Oscilloscope), High voltage testing, CAD
- **Embedded:** Microcontrollers, Embedded C/C++, Real-time signal processing

## SELECTED PROJECTS

- Radar-based slope measurement system (Capstone with Texas Instruments): Designed an interactive sensing and signal processing system using MATLAB and TI devices to accurately measure slope using only radar in real time.
- Semiconductor wafer fabrication: Hands on cleanroom processing and device fabrication with exposure to semiconductor manufacturing and simulation.

## EXPERIENCE

### S&C Electric Company, Chicago, IL

Electrical Engineer I, Research and Development, Electronics Team

July 2025 - Present

- Designed schematics and C/C++ embedded firmware for 10-channel sequencer to replace commercial units costing over \$20k, providing precise timing for zero-crossing making/breaking.
- Led development, validation, and implementation of 10 test rack units to improve high power lab infrastructure including schematic design and a Python Tkinter GUI.
- Performed SPICE simulations, high voltage testing, and fixture design for arc voltage measurement during vacuum interrupter testing.
- Supported high power lab systems by designing Arduino-based generator controller and power supply board design testing system.

### Michigan State University, East Lansing, MI

Student Research Assistant

August 2021 - December 2024

- Co-authored research on large scale network modeling developed Python-based simulation and optimization tools for minimizing large networks used for modeling social dynamics.
- Collaborated with faculty and PhD students on computational research projects including published work: Mathematical modeling of disinformation and effectiveness of mitigation policies.
- Participated in the professorial assistant program where I led the development of an interactive COVID-19 transmission model using the Dash-Plotly library in Python and Heroku cloud platform.

### West Michigan Compounding, Greenville, MI

Project Manager Intern

May 2023 - August 2024

- Automated data analysis using Python and Excel to track product quality trends, improving efficiency and accuracy.
- Deployed barcode scanning system to streamline product receiving and inventory management.

## EDUCATION

### Michigan State University, East Lansing, MI

Master of Science, Electrical and Computer Engineering

May 2025

- GPA: 3.8 | Semiconductor Manufacturing, Processing, and Devices Graduate Certificate

Bachelor of Science, Computer Engineering

May 2024

- GPA: 3.5 | Honors College | Smart Systems Concentration | Dual enrollment