

# Sean Schlieff

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## EDUCATION

**University of Georgia** | *Magna Cum Laude*

Aug. 2021 – May 2024

*Bachelor of Science in Computer Systems Engineering, Minor in Computer Science*

*Athens, GA*

- **Relevant Coursework:** Circuit Analysis, Electronics I, Embedded Systems I & II, Advanced Digital Design, Linear Systems, Sensors and Transducers, Differential Equations, Applied Linear Algebra, Multivariable Calculus, Probability and Statistics, Physics (Electricity & Magnetism), Systems Programming, Data Structures

## EXPERIENCE

**Energy Management Systems Intern**

May 2023 – July 2023

*Southern Company*

*Atlanta, GA*

- Assisted in the replacement of existing Citrix infrastructure, focusing on hardware installation, including RapidNet and fiber
- Created a script in BASH that would confirm the reporting accuracy of an application Discovery
- Provisioned and configured workstations for the Spectrum network, ensuring hardware compatibility
- Diagnosed and fixed RAID 1 disk configurations to enhance system reliability

**Window Cleaner**

November 2019 – Present

*Crystal Clear Cleaning*

*Atlanta, GA*

- Clean windows for commercial and residential properties throughout downtown Atlanta
- Prepare equipment and safely use ladders and cleaning tools at various heights
- Ensure high-quality, streak-free finishes while following safety protocols
- Communicate with clients to confirm satisfaction and address special requests

## PROJECTS

**Custom LED Lighting System** | *C++, PCB Design, Embedded Systems*

August 2024 – September 2024

- Designed a custom LED lighting system for a home entertainment den
- Engineered an "LED remote" using tactile push buttons, integrating with two ESP32 Huzzah units via Bluetooth
- Integrated a 3.3V to 5V converter, Arduino Uno, and power management for high-powered LEDs
- Designed and assembled a custom PCB to interface hardware components, optimizing space and functionality

**Motion Simulation Chair** | *Embedded Systems, Electrical Engineering, C++*

January 2024 - May 2024

- Collaborated with engineers to design and build a motion simulation chair
- Selected and integrated NEMA 34 9Nm stepper motors, CL86T drivers, and 350W power supplies for torque, efficiency, and reliability
- Calculated motor performance metrics, including torque curves, gearbox reduction (5:1), and RPM limits for smooth motion control
- Sized and sourced power components to meet ampacity and deliver 1050W system power
- Programmed motion control in C++ using FastAccelStepper for pitch, roll, and yaw

**8-Bit Computer** | *Digital Logic, Memory Design, Timing Analysis*

June 2024 – Present

- Built a bi-stable 555 timer clock to control data transfer pulses, allowing manual or automatic control via hardware
- Designed an 8-bit ALU and a 16-byte by 8-bit static RAM module, focusing on hardware-driven operations for data storage and computation

**Pill Bottle Clock** | *C++, Signal Processing, Embedded Systems*

September 2022 – November 2022

- Developed a smart pill bottle with an integrated clock using an LCD
- Implemented sensor fusion from LDR, PIR, and FSR sensors, designing signal conditioning circuits using non-inverting op-amps for voltage control
- Programmed and interfaced with hardware using Arduino to display sensor data on the LCD

**Personal Keyboards** | *Soldering, VIA*

August 2021

- Built two different keyboards for personal use
- Used VIA software to implement the correct ANSI keyboard layout and map key positions
- Soldered switches to fulfill continuity between switch pins and PCB solder joints

## TECHNICAL SKILLS

**Languages:** Java, Python, C/C++, VHDL, Verilog, Assembly, JavaScript, HTML/CSS

**Hardware/Embedded Systems:** ESP32, Arduino, Raspberry Pi, FPGAs, Digital Logic, PCB Design, Circuit Design

**Software/Tools:** EasyEDA, KiCAD, Multisim, Simulink, MATLAB, Eclipse, Git, VSCode, PyCharm, VIA

**Communication/Protocols:** I2C, UART, SPI, Bluetooth, Ethernet, Wi-Fi, SSH