

# Spencer Beer

Fort Collins, Colorado | (303)-856-6085 | [beersc@colostate.edu](mailto:beersc@colostate.edu) | <https://github.com/Spenc3rB> | [www.linkedin.com/in/spencerbeer](https://www.linkedin.com/in/spencerbeer)



## Summary

- Strong academic record with a passion for continuous learning and a desire to contribute to cutting-edge technologies in the field of embedded systems, machine learning, and autonomy. Possesses a solid understanding of microcontroller programming, operating systems, and circuit design. Always striving to create a safer and more accessible world.

## Education

- *Colorado State University / Aug. 2020 – May 2024*

Bachelor of Science in Computer Engineering | GPA 3.6 | Studying Embedded Systems and IoT with a minor in Machine Learning

## Technical Skills

### - *Programming Experience:*

- Java, JavaScript, C/ C++, SystemC, Python, MATLAB, Assembly (ARM/MIPS), HTML, CSS (+Bootstrap), Verilog, PowerShell, Bash, Socket, CUDA, TensorFlow

### - *Software Tools:*

- Visual Studio Code, Quartus Prime II, Kiel uVision5, Cadence, Fusion360, GIT, Microsoft 0365, GEM5, Sniper, Arduino

### - *Other Skills:*

- Soldering, Administrative, IT, Scripting, HW/SW Testing and Debugging, Linux/Windows OS, RTOS (FreeRTOS), Microcontrollers, Software and Hardware Optimization Techniques, RISC/CISC Architectures, Logic Analyzers and Oscilloscopes, Network and Serial Communication Protocols, VMs (VirtualBox and XCP), I/O, Memory Systems

## Engineering Projects

### - *Electric-Go-Kart / Current:*

- Capstone project with E-Kart team at CSU. Actively working on computer vision, and ECU communications.

### - *Raspberry Pi 3b+ Octopi with Obico / Current:*

- Raspberry Pi 3B+ used as 3D print server and monitor. Updated firmware and added features (i.e., CLTouch bed leveler).

### - *Home Networking & Automation / Current:*

- Server deployment, home networking, and automation using Wazuh and Wireguard VPN with Ubuntu OS.

### - *ESP32 “Smart Fish Tank” / May 2023:*

- Collaborated on the application model level in C++, along with web application development to create a fully autonomous aquatic monitoring system.

### - *Traffic Light Controller / Dec. 2022:*

- Designed and simulated a traffic light FSM using Cadence software, and with an FPGA (Verilog).

### - *ESP32 Temperature Sensor, “GenoSENSE” / Aug. 2022*

- Assisted in the design of a real-time temperature sensing product for CSU’s Bioengineering labs.

### - *Microprocessor Lab / Dec. 2021*

- Designed a simulated microprocessor with a complex array of logic gates and Quartus software on an FPGA.

### - *Electric Water Bottle / Oct. 2019*

- Designed and developed prototype, programmed in C++ with Arduino IDE using a recycled windshield washer reservoir.

## Work Experience

### - *Undergraduate Research Associate, Systems Cyber, CSU / Current*

- Bendix Brake Certified      - CAN network development and diagnostics      - C++ programming

### - *Engineering Technical Services Support Technician, CSU / Current*

- Managed domain computers with SCCM      - Worked on IT / administrative open-source tools  
- Debugged hardware and software issues      - Imaged and understand Windows 10/11 and Unix/Linux OS  
- Gained fundamental skills in the CLI and scripting      - Wrote technical documentation and solutions articles

### - *Engineering Success Center Staff, CSU / May 2022 – Aug. 2022*

- Developed a touchscreen kiosk solution for front desk with Windows 10, Power Automate, and PowerShell

## Leadership & Involvement

### - *Cross Country & Track Team Leader / Dec. 2019*

Assistant Coach for high school track & xc team

### - *Ski & Snowboard Swap / Dec. 2015 – Dec. 2018*

Organized affordable gear for local ski community