

Bjorn Nelson

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WORK EXPERIENCE

Senior Software Engineer

May 2023 – Present

Qualcomm

Boulder, CO

- Develop embedded and wireless software within the Qualcomm Government Technologies (QGOV) group
- Participate in code peer reviews to verify software functionality meets architectural and customer requirements

Software Engineer

August 2020 – May 2023

Raytheon Intelligence & Space

Aurora, CO

- Work on Apex program development team focused on backend application software for satellite command and control from ground stations, implementing change requests and new features with C++ and Java
- Oversee and expand the scope of a regression test to identify newly introduced bugs, driving quick resolution of issues and notably reducing the deployment time for software to reach end users
- Collaborate with software engineers, architects, and product owners during daily scrum and design reviews
- Support operation of software and hardware platforms in documentation and unit/integration testing duties

Product Engineering Intern

June 2019 – August 2019

Micron Technology

Boise, ID

- Developed Verilog patterns to improve the efficiency and coverage of error correcting code (ECC) memory tests
- Integrated validation code into Python test framework for Micron's first DDR5 part being shipped worldwide
- Presented project results to supervisor and other senior leaders in the DRAM Engineering Group

EDUCATION

Master of Science in Electrical & Computer Engineering

January 2021 – December 2022

University of Colorado | GPA: 3.97

Boulder, CO

Bachelor of Science in Computer Engineering

September 2016 – June 2020

California Polytechnic State University

San Luis Obispo, CA

Activities & Courses: international exchange program in Switzerland, entrepreneurship minor, President of Consumer Electronics Society club, study session leader, Week of Welcome orientation leader, intramural tennis

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|--------------------------|-------------------------|---------------------|-----------------------|
| • Data Structures | • Systems Programming | • Networks | • Computer Security |
| • Algorithms | • Computer Architecture | • Microcontrollers | • Penetration Testing |
| • Object-Oriented Design | • Operating Systems | • Real-Time Systems | • Digital Electronics |

PROJECTS

IoT Heart Monitoring System

January 2022 – May 2022

- Interfaced a sensor measuring heart rate and blood oxygen levels via I2C, calibrating it to within 5% accuracy
- Optimized system for low power consumption, through usage of interrupt-based timing and MCU sleep modes
- Implemented Bluetooth Low Energy (BLE) client and server firmware using the Blue Gecko platform's C APIs

Digital Angle Gauge

January 2021 – May 2021

- Designed, built, and tested a level by integrating embedded C with an accelerometer and capacitive touch sensor
- Utilized a finite state machine for LED indications and implemented a circular buffer for command processing

Mechatronics Sumo Robot

January 2020 – March 2020

- Used IR, acceleration, and ultrasonic sensors to control DC gearmotor behavior with a task scheduling algorithm
- Participated in the intra-class competition after extensive testing phase, robot scored in the top 1/3 of all teams

Cal Poly Robotics Club Underwater Remotely Operated Vehicle

January 2017 – December 2018

- Developed Python software for a Raspberry Pi to manage a graphical user interface and UART data transmission

TECHNICAL SKILLS

Languages: C/C++, Python, Java, ARM Assembly, MATLAB, HTML, XML, Unix shell scripting

Tools & Frameworks: Git version control, Linux, Buildroot/Yocto, MQTT, Qt, Eclipse, Jira, Confluence

Electronic Test Equipment: oscilloscope, function generator, multimeter, logic analyzer, power supply