Bryce Rega

(952) 463-6906 | bryce.w.rega@gmail.com | Excelsior, MN 55331
LinkedIn: www.linkedin.com/in/bryce-rega

OBJECTIVE STATEMENT

A determined student and intern looking to apply knowledge and gain experience in controlling hardware via back-end software means.

WORK AND SCHOOL EXPERIENCE

Embedded Software, Banner Engineering

May 2023 - PRESENT

- C/C++ embedded software on STM32 chips
- C++ unit tests and Python integration tests
- Developed and released features on existing sensor products
- Created a new sensor project from scratch

PrISUm Solar Car Club, Iowa State

August 2021 - PRESENT

- C/C++ programming (using registers)
- Microcontroller programming with datasheets
- Sending messages between custom boards

Academic Tutor, Iowa State

August 2022 - October 2022

- Tutoring students in a group learning format
- Preparing and teaching concepts for early computer engineering, computer science, and economic courses

EDUCATION

Iowa State University - *3.88 GPA*

August 2021 - PRESENT

- Computer Engineering Major (Undergrad)
- Expected Graduation: May 2025
- Residence hall student leadership

Minnetonka High School

September 2017 - June 2021

- Enrolled in the VANTAGE Professional Program
- Enrolled in the Minnetonka Research Program
- Participated in student leadership

NOTABLE PROJECTS

Motor Interface Board - *PrISUm Solar Car*

August 2022 - PRESENT

- Processing and converting CAN messages to SPI messages used by motor controllers
- Developed a PID controller for cruise control

Sensor Event Frequency - *Banner Engineering*

May 2023 - July 2023

- Performed rate calculations from sensor inputs
- Interfaced with IO-Link and Modbus with C++
- Ran tests and released on production hardware

Roomba Rover - *Iowa State University*

March 2023 - May 2023

- Programmed a customizable Roomba in C
- Interfaced with IMU and IR distance sensor
- Controllable with video game controller and displayed a live map using Python and Raspberry Pi

Motorboard - *PrISUm Solar Car*

January 2022 - May 2022

- Using CMSIS to program SAMC21J micro in C
- Converting pedal inputs to CAN messages

SKILLS

General

- Project management and delegation of work
- Program optimization using high or low-level languages
- Designing programs used for automation

Specific

- General C, C++, and Java programming
- Programming Python scripts that incorporate APIs
- Engineering embedded software (C/C++)
- Referencing datasheets to program microcontrollers
- HTML, CSS, JavaScript, and VUE for Web Development
- Using Git and managing with GitHub and GitLab
- Connecting software with websockets
- Mobile app development using Swift