Ryan McGee
Robotics / Automation Engineer

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Searching for a full-time robotics / automation engineering position, starting May 2024.
In person / remote, willing to relocate if necessary .

Education

Rochester Institute of Technology (Senior)   2018-2024
Robotics and Manufacturing Engineering Technology | GPA 3.31

Employment

CACI - *Software Engineer Intern* - Dahlgren VA   May 2019 - Dec 2021
  - Developed C++ programs for capturing, processing and retransmitting network data
  - Created JavaFX UIs to display live data inside a PostgresSQL database
  - Generated packages and created regex bash scripts for RedHat systems

ITW Hartness - *Controls Engineer Intern* - Greenville, SC   May 2022 - Dec 2022
  - Wrote PLC ladder logic and created HMI UIs on Allen Bradley systems for accumulation machines
  - Developed algorithms to control accumulation of product on mass-flow conveyors using vision sensors
  - Used AutoCAD Electrical to develop panel schematics for robotic palletizing systems
  - Simulated line product flow with the Emulate3D physics engine

ei3 Corporation - *Automation Engineer Intern* - Pearl River, NY   June 2023 - Current
  - Created a test stand to demonstrate platform-agnostic data ingestion on ei3 hardware
  - Provisioned OPC UA servers and connections
  - Implemented the PackML standard on Allen Bradley, Beckhoff and B&R platforms
  - Created an HMI for controlling three PLCs at once using Maple Systems, following the PackML HMI standard

Skills

Automation:
  - Ladder Logic
  - Structured Text
  - B&R Automation Basic
  - HMI Design
  - ABB Robot Studio
  - ABB SMART Certification

CAD:
  - Solidworks
  - Autodesk Inventor
  - KiCAD

Programming:
  - C++
  - Java
  - Bash
  - Git
  - Linux

Frameworks:
  - OpenCV
  - JavaFX
  - ESP-IDF
  - ROS

Projects

3D Printed Robots: *ryanmcgee.dev/portfolio*
  - Custom differential, swerve and mecanum drivetrains, designed in Inventor and FreeCAD
  - Controlled via Raspberry Pi, Pi Pico and esp32 microcontrollers
  - Programmed in Java, C and C++ (ROS), communicating over WiFi and Bluetooth

VEX Robotics CoreAPI   *github.com/RIT-VEX-U/Core*
  - A custom open source C++ API for easily managing mobile robotic subsystems and utilities
  - Supports feedback loops, logging, and state-machine control with a modular, object-oriented approach
  - Abstracts drivetrain and manipulator subsystems for a fast-paced development environment

Activities

RIT VEXU Robotics Team, *President and Software Lead*
  - A robotics team that creates two mobile robots for a game released each year, and competes against other universities
  - Developing software for motion controls and asynchronous state management
  - Managing the GitHub organization's 5+ active repositories with code reviews, pull requests and wiki maintenance