Michael T. Bowen

Robotics Software Developer

Portfolio | Michael@thebowenfamily.com
LinkedIn | GitHub

Summary

Robotics-focused software engineer experienced in building motion planning, digital twins, and real-time control interfaces using Fanuc systems. Strong background in C++, Python, and React for automation, visualization, and intuitive robotics UI.

Skills

Fanuc Robotics, CRX Series, Roboguide, DCS, C++, React, OpenCV, CIP over Ethernet/IP, ZCM (UDP), IO/PLC Integration, Web-based HMI, Digital Twin Simulation, Multithreaded Systems, Linux

Experience

Junior Software Developer | Rigorous Technology   *Jul 2024 – Present | Burlington, VT*

- Created robotic control software for Fanuc CRX and M-Series robots using C++ and Roboguide.
- Built React-based web UI to configure pallet layouts and monitor robot status on touchscreen HMIs.
- Simulated pallet patterns and collisions with digital twins; used CIP for real-time robot communication.
- Developed IO-driven state machines and implemented safety protocols using DCS and CRX features.
- Applied 2D vision and TOF-based edge detection with OpenCV for dynamic box pickup.

Full Stack Developer | Cinquefoil Solutions   *May 2022 – Jun 2024 | Remote*

- Built CRM system using React/Next.js and MongoDB, replacing manual workflows.
- Created modular UI components and backend logic to streamline quoting and customer tracking.

VR Software Developer | Emergent Media Center   *Sep 2021 – Dec 2021 | Burlington, VT*

- Integrated sensor-driven simulation in Unity for VR—experience relevant to digital twin modeling.

Education

Champlain College

B.S. in Game Programming — GPA: 3.7
Relevant Coursework: Kinematics, Realtime Networking, 3D Collision
Demo Reel