Jonathan Bayless

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A well-rounded software developer focusing on full stack development with a background in electronics and controls systems.

Employment

Curative Inc
Mid-Level Full Stack Software Engineer   *Aug 2021–Present*
– Launched software support for 3 new test types, refactored code to support the < 24 hour timelines for supporting new tests
– Developed a math + code solution for drift correction of raw PCR results that reduced the likelihood of false positive results
– Created documentation for the PCR analysis algorithm and ran lunch & learns to reduce knowledge silo around algorithm
– Led creation of FHIR API w/ OAuth2 to integrate with Clear Health Pass app and quickly support a high-profile launch event
– Selected as sole Backend Engineer in a scaffolding project to set up the team's transition to Kotlin microservices
– Resolved miscellaneous performance issues with queries that were causing timeouts on production instances
– Added a Swagger/OpenAPI generator and related config in spare time to help with onboarding and collaboration with QA

Carrier Corporation
Software Engineer, Scrum Master   *May 2019-August 2021*
– Led the development of a shared software platform to increase code sharing across thermostat and HVAC equipment
– Developed new state management solution for distributed embedded hardware system by porting Redux to embedded C++
– Ensured on time release of feature complete Wall Control support for new Heat Pump product
– Introduced team to Scrum and started Standup, Retrospective, and Sprint Planning Processes
– Led transition of team to Git, AWS, and Atlassian tool suite (JIRA)
– Led Sprint Planning Meetings, Daily Standups, and Retrospectives as Scrum Master to maximize team productivity

The Boeing Company
F15 Mission Processing Software Infrastructure Intern   *May 2018–August 2018*
– Added support for new systems and revamped RTOS performance analysis tool to prevent mission-affecting overframing

Rolls-Royce Corporation
Electrical Test Engineering Intern   *May–August 2016, May–August 2017*
– Created VBA tool for collaboration with mech team, designed a new controls algorithm that improved performance over PID

Education

Purdue University   **May 2019**
Bachelor of Science in Electrical Engineering, Minor in Organizational Leadership

Project Management Institute   **July 2020**
Agile Certified Practitioner

Side Projects

Purdue ACM SIGBots
President, Mentor   *2015 − Present*
– Developed a variety of Kalman Filters, PID controls, path planning, and odometry for mobile robots
– Placed 1st in World Competition Rankings and 4th in the World Programming Skills
– Increased users of team's RTOS/Dev Environment from 200 to 40,000+ as kernel and editor developer
– Developed bare-metal firmware in C for Cortex M3 and Xilinx Zynq micros to provide RTOS and drivers for sensors and motors

auToDo
– A web app for tracking routine car maintenance built on Django/PostgreSQL with React and Flutter clients

Pedal Parts Calculator
– A web app that builds a BOM for homemade guitar pedals. Built on Rust/Actix/PostgreSQL with a Svelte client.

Technical Skills

Programming Languages (Proficient): C, C++, Python, MATLAB, Dart, Javascript

Programming Languages (Knowledgeable): C#, Ada, Arm Assembly, Sass, Typescript, Kotlin, Swift, SQL, Ruby, CSS, Rust

Technologies: QNX/Unix/Linux, Git, CI/CD, IBM Rational (DOORS), Bash, Docker, PostgreSQL, ElasticSearch, CMake, AWS, Firebase, Bazel, Jira/Confluence, Gradle

Frameworks/Libs: Django, NodeJS, React, Redux, NextJS, Flutter, ROS, Gatsby, Flask, Micronaut, Ktor, Actix, Svelte

Controls Skills: Kalman filtering (EKF/UKF), State Space control, AI autotuning for PID, Pure Pursuit, Spline path planning