

# Jonathan Bayless

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A well-rounded software developer focusing on IOT devices with a background in electronics and controls systems.

## Employment

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### Carrier Corporation

Software Engineer, Scrum Master - Next Gen Thermostats

Jan 2021–Present

- Worked with Systems and Product Marketing teams to create the hardware and software design to achieve product market fit
- Led the development of a shared software platform to increase code sharing across thermostat and HVAC equipment
- Introduced team to Scrum and started Standup, Retrospective, and Sprint Planning Processes
- Led transition of team to Git, AWS, and Atlassian tool suite (JIRA)
- Developed new state management solution for distributed embedded hardware system by porting Redux to embedded C++

### Carrier Corporation

Software Engineer, Scrum Master - Wall Controls

May 2019–Dec 2020

- Led Sprint Planning Meetings, Daily Standups, and Retrospectives as Scrum Master to maximize team productivity
- Ensured on time release of feature complete Wall Control support for the top-tier, highest-efficiency-in-market Heat Pump
- Led team of 20 in a transition to a version control process that improved dev productivity and aligned better with business goals
- Resolved defects and new feature tickets at highest velocity in team

### The Boeing Company

F15 Mission Processing Software Infrastructure Intern

May 2018–August 2018

- Added support for new systems and communication protocols to improve coverage of existing logging systems
- Revamped RTOS frame analysis tool to aid in threading use and prevent mission-affecting overframing

### Rolls-Royce Corporation

Electrical Test Engineering Intern

May–August 2016, May–August 2017

- Designed and implemented new controls algorithm that improved performance over PID
- Created VBA tool for parsing .ini config files into Excel sheet that became standard for collaboration with mechanical teams

## Education

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### Purdue University

Bachelor of Science in Electrical Engineering, Minor in Organizational Leadership

Graduated May 2019

### Project Management Institute

Agile Certified Practitioner

July 2020

## Side Projects

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### auToDo

Founder

2019 – Present

- Led marketing campaigns, SEO efforts, and customer engagement for cross-platform car maintenance tracking app
- Built backend authentication, database management, and business logic with Django and PostgreSQL
- Built web client on React with Redux for state management and mobile client on Flutter

### Purdue ACM SIGBots

President, Vice President, Mentor

2016 – 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

## Technical Skills

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

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

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

**Frameworks/Libs:** Django, NodeJS, React, Redux, Flutter, ROS, Gatsby, Jekyll, Eigen, Protobufs

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