

Jonathan Bayless

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

Employment

Carrier Corporation

Graduate Hire Program - Firmware Developer, Scrum Master

May 2019–Present

- 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
- Supported recruiting efforts by interviewing candidates and acting as Ambassador for Grad Hire Program in Indy office
- 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
- Rewrote Ada parser for flight test messages in Python to support new message spec and cut technical debt
- Fixed bugs in build scripts and test environments

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

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

auToDo

Co-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 frontend on React with Redux for state management and mobile frontend on Flutter with BLoC

Purdue ACM SIGBots

President, Vice President

2016 – 2019

- 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 2000+ as kernel developer and UX/API designer
- Developed bare-metal firmware in C for Cortex M3 and Xilinx Zynq micros to provide RTOS and drivers for sensors and motors

Association for Computing Machinery

President

2018 – 2019

- Coordinated team meetings and events, handled team finances and maintained relationships with sponsors
- Led four Special Interest Groups (SIGs) in areas of App Development, AI, Robotics, and Game Development

Technical Skills

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

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

Technologies: QNX/Unix/Linux environments, Git, CI/CD, IBM Rational (DOORS), Bash, Docker

Frameworks: Django, NodeJS, React, Redux, Flutter, ROS, SQLite, PostgreSQL

Other Software Skills: LTSpice/NGSpice, KiCad, CATIA, Autodesk Inventor/Fusion, Adobe Illustrator

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