Jonathan Bayless

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Third year undergraduate electrical engineer seeking an internship in the fields of Electrical Engineering or Software Engineering. Particular interest in controls systems, embedded systems, and robotics.

Education

Purdue University **Expected Graduation: May 2019**
Bachelor of Science in Electrical Engineering, Minor in Organizational Leadership *GPA: 3.3/4.0*

Employment

Rolls-Royce Corporation
Electrical Test Engineering Intern *May 2017–August 2017*

– Designed and implemented new controls algorithm to improve performance over PID; patent currently pending
– Created VBA tool for parsing .ini config files into Excel sheet for collaboration with mechanical teams
– Developed time calculation and risk assessment software tool for engine servicing and repair
– Lead a team of 12 engineering interns in updating facility database

Rolls-Royce Corporation
Electrical Test Engineering Intern *May 2016–August 2016*

– Built PLC hardware and validated PLC programming for engine test stands
– Validated signal configuration for European test stands in QNX based HMI software
– Upgraded computer hardware and created Ethernet-linked satellite HMI station for air facility control

LAWNServ of Central Indiana
Lawnmower operator *June 2014-August 2015*

– Maintained and operated a Zero-turn lawnmower, planned routes, and upheld positive company image

Leadership Experience

Purdue ACM SIGBots
President *August 2016–Present*

– Designed mechanical systems, sensor integration, and controls systems development for semi-autonomous robots
– Coordinated team meetings and events, handled team finances and maintained relationships with sponsors
– Developed a generalized feedback control library for utilizing a variety of algorithms with VEX robots
– Implemented the Particle Swarm Optimization algorithm for generating PID constants for robotic subsystems
– Participated in kernel development of a RTOS for Arm Cortex and upcoming VEX microcontroller
– Built the documentation site for PROS with Sphinx. Heavily modified the existing Sass theme to fit requirements
– Created an I2C driver for 9 DOF IMU

Technical Skills

Programming Languages: Proficient in: C, C++, MATLAB, VBA
Basic ability with Python, Shell scripting, HTML5, CSS, Javascript, Sass

Software Skills: QNX/Unix/Linux environments, Git, LTSpice, LaTeX, CATIA, Autodesk Inventor, Microsoft Office, Allen Bradley/Modicon PLC programming, Phabricator, Agile/Kanban methodologies

Other: Soldering, MIG welding, plasma cutting, 3D printing

Involvement and Honors

– Alpha Phi Omega Service Fraternity
– Association for Computing Machinery
– Institute of Electrical and Electronics Engineers (IEEE)
– Purdue Presidential Scholarship
– Purdue Electrical Engineering Scholarship
– Phi Eta Sigma Honor Society