ROCK BOYNTON

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EDUCATION

Milwaukee School of Engineering Milwaukee, WI

Bachelor of Science in Computer Engineering, Expected Graduation: May 2021 GPA: 4.0/4.0

- Dean's list with High Honors, Presidential Scholarship

WORK EXPERIENCE

Software Engineer, Intern Milwaukee, WI

Leonardo DRS Summer 2019

- Developed 3 CLI scripts in **Python** to aide in regression testing for the upcoming Columbia class US Navy nuclear submarine Main Propulsion Drive (MPD) programmable logic device (PLD) firmware verification team
- Facilitated conversion of existing code repository from Surround SCM to Git/Bitbucket by resolving edge case crashes and implementing multithreading in a **Python** conversion script increasing speed of conversion by 30%
- Debugged PLD test scripts in Modelsim as well as **VHDL** firmware code in a Git feature workflow contained in 2-week Agile sprints tracked in Jira with requirements managed in DOORS
- Produced a quick start guide for new hires outlining steps on getting acclimated with the code base and Git workflow

PROJECTS

Pump Me Up Spring 2020

- Automated a hand sanitizer bottle using a photoresistor as a motion sensor to trigger (3) SG90 Servo motors attached with dental floss to the nozzle
- Utilized a STM32 Nucleo-64 development board with ARM microcontroller programmed with **C++** and the mbed platform

Joystick + Accelerometer Controlled Camera Mount Spring 2019

- Teamed with a partner utilizing a DE10-Lite SoC with Nios II processor to produce a multifunctional camera mount
- Built custom hardware with **VHDL** and Qsys including 4-wire SPI component controlling a 10-bit ADXL345 accelerometer chip and an I2C Master component to control an OV7670 camera; developed respective drivers
- Assembled an API for application developers in **C** plus a complete user manual outlining features, architecture, usage, memory map, GPIO pinout, HAL, and example code

Remote Locking System Winter 2018

- Designed and programmed an IR remote locking system in **C** using STM32 Nucleo-64 dev board with UART
- Used a timer in the MCU to read from an IR sensor (soldered on a dev board) with interrupts on input capture
- Decoded the remote IR modulated signals for each key press using an oscilloscope and processed the ISR with a FSM

TECHNICAL SKILLS

- **Programming Languages:** ARM Assembly, Shell, C, C++, MATLAB, Python, VHDL, Java/JavaFX
- **Applications:** Bash, Bitbucket, DOORS, Eclipse, Enterprise Architect, Git, GitHub, JetBrains IDEs, Jira, Linux OS, LTSPICE, MS Office Suite, Modelsim, Multisim, Qsys, Quartus, VirtualBox, Visual Studio Code, Waveforms

ACTIVITIES

- **Activities:** Competed in IEEE Xtreme 12/13 using **Java/Python** placing 12th in the US and top 5% in the world
- **Honor Society:** IEEE-Eta Kappa Nu (Corresponding Secretary)
- **Athletics:** MSOE Varsity Hockey (goaltender) – NCAA III - NCHA All-Academic Team 2018-19/2019-20