ROCK BOYNTON

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EDUCATION

Milwaukee School of Engineering Milwaukee, WI

Bachelor of Science in Computer Engineering (Mathematics minor); Exp. Graduation: May 2021 *GPA: 4.0/4.0*

- Dean's list with High Honors, Presidential Scholarship

WORK EXPERIENCE

Software Engineer, Intern Milwaukee, WI

Cognex *Summer 2020*

- Enhanced **C++** FW/embedded SW in machine vision tools, unit tested w/**JavaScript**, integration tested w/**Python**
- Compiled builds, and remotely connected to smart cameras running Linux on ARM via **SSH** in **Bash**
- Fixed bugs and improved usability in our software for developing machine vision applications on **.Net Core** with **C#**
- Recommended, implemented, and demonstrated Jira workflow triggers for company-wide Agile development teams to smoothly transition issues through the Scrum board via **Git** commit, branch creation, and PR submissions

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
- Used an STM32 Nucleo-64 dev board with an ARM MCU programmed with **C++** on the ARM 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 for the embedded system

Remote Locking System *Winter 2018*

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

TECHNICAL SKILLS

- **Programming Languages:** ARM Assembly, Shell, C, C++, C#, MATLAB, Python, VHDL, Java, JavaScript
- **Applications:** Bash, Bitbucket, DOORS, Eclipse, Enterprise Architect, Git, GitHub, JetBrains IDEs, Jira, Linux OS, LTSPICE, Modelsim, Multisim, Qsys, Quartus, Simulink, VirtualBox, Visual Studio, VS 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:** Acted as the Corresponding Secretary for IEEE-Eta Kappa Nu honor society
- **Leadership:** Created and led a Developer Student Club chapter at MSOE backed by Google Developers
- **Athletics:** Goaltended for MSOE Varsity Hockey – NCAA III - NCHA All-Academic Team 2018-19/2019-20