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 2week 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

O 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

O 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