Timothy W. Kilmer Jr.

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EDUCATION

Clarkson University Potsdam, NY
Bachelor of Science in Electrical Engineering, Minor in Mathematics; Dean's list, GPA 3.5 *Fall 2016 - 2018*

State University of New York (SUNY) at Oneonta Oneonta, NY
Bachelor of Science in Physics, 3+2 Engineering program; GPA 3.75 *Fall 2013 - 2018*

TECHNICAL SUMMARY

Programming Languages : C, C++, Python, VHDL, Verilog
Drivers : Ethernet, UART, I2C, SPI, ADC, DAC, Dataflash, Flash, GPIO
Protocols : TCP/IP, DHCP, MQTT, BSP Sockets, PMBus/SMBus, YModem, XModem, OPC-UA
Lab / Debug Tools : Oscilloscope, Function Generator, DC/AC Power Supplies, In circuit emulators (Jlink), GDB
Development Tools : E2 Studio, Eclipse, GCC, IAR, Wireshark, MATLAB, Simulink, Altera Quartus II, Xilinx Vivado
CI/CD Tools : Git, Gitlab, Jenkins, Docker, KVM
Host / Target OS : Windows, Linux, RTOS (ThreadX)
Hardware Skills : Reading Schematics, Digital Circuit Design, Controls Design, Soldering
Documentation Tools : Microsoft Office (Word, Excel, and Powerpoint), Jupyter Notebooks, LaTeX

PROFESSIONAL EXPERIENCE

International Business Machines (IBM) Poughkeepsie NY
Firmware Design Engineer *June 2018-present*
- Implemented feature to enable customers to configure and fetch both system and application configuration using DHCP options.
- Developed and designed MQTT interface for firmware to communicate with system tools over MQTT for cloud administration of devices in the field.
- Debuged and developed applications that have communicated over I2C,UART,SPI, program and dataflash, and TCP/IP.
- Worked on code to update firmware and downstream devices over the network.

LC Drives Potsdam NY
Electrical/Controls Engineer Intern *May 2017-September 2017*
- Designed controls for automation using DipTrace schematic tool.
- Integrated git and python for development of automation software.
- Designed instrumentation controls to meet the national electric code by NFPA and project requirements.

Hack Potsdam Hack-a-thon at Clarkson University Potsdam NY
Participant *March 2017*
- Implemented CPU in VHDL hardware description language to design the ALU and VHDL code debugging.
- Worked with Git and Git-hub for version control of group code.

Graphene Structure Simulation National Science Foundation Troy, NY
Intern *June - August 2016*
- Prepared scripts for handling input and to run files used in Density Functional Theory (DFT) calculations.
- Rapid 3D prototyping of molecular structures for kinetic learning.
- Basic introduction to Linux terminal and ssh file transfer from server and home computer.

Energy Harvesting/MEMS SUNY Research Foundation Vestal, NY
Intern *May - July 2015*
- Interned as a Lab Assistant in the research and fabrication of MEMS and energy harvesting devices.
- Oversaw design of photomasks, photolithography printing and development, and Reactive Ion etching.
- Worked on restoration of MEMS devices and proper clean room procedures using manual wire-binding machine.

Projects

Homelab *idk*

Sit Stand Arduino Mod *idk*

FPGA based Audio Multiplex/Mixer *idk*

LEADERSHIP EXPERIENCE

SUNY Oneonta Oneonta, NY
Peer and Group Tutor *February 2015 - May 2016*
- Guided students in vector calculus in a one-on-one environment
- Led student peers in general college physics for walk-in tutoring

Oneonta Tech. and Engn. Club SUNY Oneonta Oneonta, NY
Manager *October 2015 - May 2016*
- Supervised club and shop activities relating to electronics, wood working, and project design.
- Kept innovatory of tools, equipment, and supplies

Physics and Astronomy Club Oneonta, NY
Public Relations and Treasurer *September 2014 - May 2016*
- Public Relations- Held communication between public and club advertising events and activities.
- Treasurer- Responsible for the management of club expenses and budget of $500 for events and activities.
- Coordinated club events and activities with President and Student Union

Boy Scouts of America Troop 45 Walton, NY
Eagle Scout Award *April 2012*
- Led and planned project that entailed the construction of record boards for local high school track teams.
- Organized volunteers in community in the fund raising, construction, and instillation of the record boards.
- Complied with constraints set by the high school, Boy Scouts of America, and State Code.
- Documented project plans so they can be reproduced for anyone that wanted to reproduce my project.

RELEVANT AFFILIATIONS

Clarkson Open Source Institute (COSI) Potsdam, NY
Clarkson University *2016 -May 2018*
- Robotics using Robot Operating System (ROS)