

STATEMENT I have prepared this resume with the intention of obtaining a Software Engineering position. Although my formal education is in Electrical Engineering, I have been teaching myself Software Development and Systems skills since the beginning of high school. To emphasize this part of my skill set, I have included an additional section highlighting both personal and professional projects.

EDUCATION B.S. in Electrical Engineering Spring 2012
The Pennsylvania State University, University Park, PA
GPA 3.33/4.0

WORK EXPERIENCE **SMTS - RF Test Engineer** July 2023 - Present
GLOBALFOUNDRIES, Essex Junction, VT
RF Test Software Engineering

Currently working on software projects that are used in the test and verification of RF semiconductor devices. Direct continuation of previous role.

MTS - Silicon Photonics Software Engineer March 2020 - July 2023
GLOBALFOUNDRIES, Essex Junction, VT
Silicon Photonics and RF Test Software Engineering

- Worked on software projects that are used in the test and verification of silicon photonics semiconductor devices.
- Worked with customers to write test programs for wafer and module testing.
- Pulled from previous role to provide solutions to my new team for various systems needs.
- Provided training to new employees.

Staff Software Engineer November 2019 - February 2020
Marvell Technology Group, Essex Junction, VT

Primary task was Marvell system transition activities. This was a part of a division transfer from Globalfoundries to Marvell. Very short excursion, returned back to Globalfoundries right after to same work environment.

Staff Software Engineer March 2019 - November 2019
GLOBALFOUNDRIES, Essex Junction, VT
Manufacturing and Engineering Systems Development

- Direct continuation of previous role, after my systems grew too big.
- Delegated tasks to other team members for various work items for my applications.
- Provided education and training to other team members on a regular basis.

Principal Software Engineer April 2016 - March 2019
GLOBALFOUNDRIES, Essex Junction, VT
Manufacturing and Engineering Systems Development

- The application development framework I developed and the applications I created with it grew into a system that spanned our entire test organization, servicing over 300 distinct users per week, and their associated business applications.
- Was responsible for several manufacturing floor applications that managed all tool real time operations, the product that flowed through them, and also the hardware inventory used by the tools.
- Led small team focusing on the transfer and continued maintenance of a selection of manufacturing floor systems.
- Immersing myself with a target department to find out inefficiencies that I could solve was common practice.
- I worked with all of my applications' users on a daily basis to create automation solutions that worked for them, as well as sometimes provide same day turn around and deployment for feature requests.

Senior Software Engineer
GLOBALFOUNDRIES, Essex Junction, VT
Manufacturing and Engineering Systems Development

July 2015 - April 2016

- IBM Microelectronics division was sold to Globalfoundries.
- My primary job duties were identical to previous IBM position.
- During the transition time I had reconfigure and transfer many applications from the IBM systems to the Globalfoundries systems.

Engineer/Scientist
IBM Systems & Technology Group, Essex Junction, VT
Manufacturing and Engineering Systems Development

June 2012 - July 2015

- Assisted with very old Solaris code base for in-house designed power supply system for testing wafer/module chips.
- Created a framework for Cadence Allegro board design using their SKILL libraries. Framework included tools to help with board electrical validation, custom file generation for other business processes, and user interface for common tasks and inspection.)
- Created a PHP/MySQL/DB2/Oracle web/backend application development framework that would later go on to service many department engineering automation needs.

Pre-Professional Engineer
IBM Systems & Technology Group, Essex Junction, VT

Summer 2011

- Worked with 3D laser depth mapping tools and their configurations to scan for wafer defects while they are in between other processes.
- Analyzed AIT1 tool defect detection data, and provided a way to separate out noise.
- Created a system with a web interface to collect, manage, and gather reports on all depth mapping tools we had running.

Production Associate
IBM Systems & Technology Group, Essex Junction, VT
Worked on the semi-conductor manufacturing floor as a tool operator.

Summer 2010

Retail Operations/Cashier
Bibens ACE Hardware, Essex, VT

Summers 2008 & 2009

Various retail duties including re-stocking, large item assembly, customer assistance, and cashier.

Information Technology Installation & Upgrade Staff [High School Part Time Job]
Chittenden County Supervisory Union - Essex Schools
Helped high school IT team do workstation initial setup, placement, and imaging.

Summers 2006 & 2007

SKILLS I should be able to hit the ground running in positions depending on these skill sets.

- Advanced in C++, Python, UNIX Shells, PHP, HTML/CSS, JavaScript, Cadence SKILL/LISP
- Advanced in IBM DB2, MySQL, Oracle, General Data Analytics and Query Creation
- Advanced in Linux System Administration and Infrastructure Build Up
- Advanced in Docker and Containerization
- Intermediate in Java, ASP, Basic, C#
- Intermediate in Networking Systems Architecture, Networking Hardware Setup
- Basic Radio Engineering, my FCC callsign is KC1HFJ
- Basic in SolidWorks, Photoshop, Final Cut, MultiSim, Agilent ADS, FEKO, Cadence Allegro, and MatLab
- Academic project experience with VHDL and Verilog

SPECIAL SKILLS For various life reasons, over the years I have had the opportunity to help start up two small companies so far. They represent an investment in both time and personal finances, but never consumed enough time to warrant dropping my full time job. So far the net yield of them has mostly been experience and exposure. Knowing how to build both a company and its systems from scratch, is more than worth it.

Co-Founder, Accounting and Systems

MCS Rentals, Burlington, VT

February 2022 - Present

- I have created systems to automate our business operations. This uses a normal stack of AWS EC2 and Docker containers using opensource programs as well as custom python programs.
- I have setup an internal networking/VPN schema for various house sensor monitoring and security systems.
- I handle part of the accounting.

Co-Founder, Software and Network Engineer

Mansfield Community Fiber, Underhill, VT

March 2016 - Present

From the ground up, I have setup and currently manage the following:

- Base IT solutions like Google Workspace and Domain/DNS management
- Billing system and Quickbooks
- ISP specific accounts and configurations, such as FCC and ARIN
- Virtual machines that run docker containers for every opensource or custom service we use
- Configurations for around 60 active services (containers) that our team needs
- Custom programs I have developed to automate our business and technical tasks
- GIS mapping system for our internal use
- All networking and server hardware and their configurations, for both our internal network and our internet service network

MCF currently has over 750 customers.

PERSONAL PROJECTS I spend a lot of time experimenting with things and making proof of concepts for new skills. Here are some examples of projects and topics I have done either for myself or to help others.

- Personal Websites
- X10 House Lights + Websocket / Live Control Web Page
- RF Modules + Custom Corba Like Comm over Serial
- Arduino Projects
- Docker templates that could be used to instantly create an IT infrastructure for a small business
- Actively working on a Car Gas Usage App
- Wireless Barcode Reader that uses Socket Server to fetch product info
- Mutli-Threaded, Multi-Client Socket Server
- Lots of various Linux services setup on home server, and custom router firmware
- Collection/Exploitation of [Cable Company] website to get customer list in a given area, and place them on a google map
- Custom Compiling PHP Plugins, MySQL Modules, and Apache Modules
- IBM Sametime Chat Bot / Message Dispatcher
- Setting up and customizing Linux Services like SMTP, SSH, Apache, Samba, LDAP, IMAP at a production level
- Getting custom LUA scripts to run on a WiFi SD card
- Home chemistry/electrical projects
- Making changes to video game mods
- Occasional car repairs/changes that I have the tools for
- I enjoy doing security testing on systems, and finding ways to get around system restrictions
- Using Modified Canon Camera Firmware
- Small internet service provider level network design