

Education & Certifications

Elizabethtown College | Bachelor of Science | Elizabethtown, Pa 3.40 GPA | 2020
· Majors: B.S. Computer Engineering, B.S. Computer Science

Relevant Course Work

- Engineering: Calculus + Differential Equations, Circuits, Electronics, Signals, Digital Design + Interfacing. Computer Organization and Architecture. Advanced Computer Engineering
- Computing: Data Structures, Systems Programming, Compiler Design, Software Engineering. Database Systems

Secret Level Department of Defense Security Clearance

Experience

Systems Engineering Intern at Lockheed Martin [AEHF] | King of Prussia, PA Since May 2019
· AEHF Operational Support Element. Supporting mission control development
· Implementing DoD Risk Management Framework. Assessing compliance and performing remediation
· Maintaining environment, standing up new servers, decommissioning old servers

Software Engineering Intern at Lockheed Martin [Horizon C&C] | King of Prussia, PA May 2018 – May 2019
· Worked primarily with software defined radios and developing a large-scale command and control java application
· Created a scalable platform on which C++ based GNU Radio flowgraphs can be deployed rapidly
· Developed portions of command and control platform. Focused on scheduling and cross-process communication

Computer Engineering TA at Elizabethtown College | Elizabethtown, PA Since May 2018
Computer Organization and Architecture, Microcomputer Architecture, Digital Design, Advanced Computer Engineering
· Created new teaching material, lab projects, and documentation for lab hardware and software
· Wrote a full manual for the Basys 3 FPGA. Includes a Verilog tutorial, and targeted C compilation
· Assisted students with lab activities and projects

Software Development Intern at Clair Global | Lititz, PA May 2017 – September 2017
Network Engineering / IT at Coventry Christian School | Pottstown, PA June 2015 – March 2016

Projects

Emulators | Personal Project Since February 2019
A recent effort to learn more about processor design. I've been working on emulators for older architectures
Chip8: A common first emulator implemented using C++ and SDL2. Accurate to original design. Has debugger
Intel 8051: A effort to make an educational Assembler and Emulator for 8051 ASM. Made using C++, SDL2, ImGui
MOS 6502: A cycle accurate, modular designed 6502 emulator that dreams to be used in an Apple II, NES or C64

Otis | Elizabethtown College January 2019 – May 2019
An affectionally named neural networking algorithm, Otis was developed by 5 students on an Agile team where I acted as our scrum master. Otis can learn based on binary data and make reasonably (99%) correct assumptions about the data. Otis' development was fully automated with CI/CD, unit testing, automatic documentation, and code coverage

Vector Array Processor | Elizabethtown College March 2018 – May 2018
Along with 2 other students, I designed a quad-core 16 bit processor that supported standard arithmetic operations, vector math, and basic neural transfer functions as a fully implemented gate design. The processor supported 26 opcodes and each core could take an individual code stack and allowed for cross-core data transfer.

HomeLab | Personal Project Since 2016
A continuing project in learning more about networking, security, and systems administration. "JuiceNet" is a home networking setup which is made of 2 Dell PowerEdge Servers. The lab runs off ESXi and supplies a NAS, web server, media server, private git source, game servers, ad blocker, VPN, full windows domain, CTF and Wargame challenges, and more

Skills & Abilities

Languages: C/C++, Java, PowerShell, Python, Go, Swift, HTML/CSS, Bash, C#, MySQL, Java/TypeScript, MATLAB, and more
Platforms: Windows and Unix server environments, Git, Linux [RHEL, Ubuntu], Agile [Jira and VersionOne], JetBrains IDEs, Eclipse, CI/CD [Gitlab and Travis CI], Hardware Expertise, Embedded Systems, Software engineering methodologies.