

Experience

Associate Software Engineer at Lockheed Martin | King of Prussia, PA Since May 2020

- AEHF Operational Support Element. Supporting mission control development, building machines for customer.
- Developed a CI/CD Pipeline from scratch for the environment. Provides builds, hosted repositories, automated testing, static code quality and security analysis in a quick, consistent, and accurate environment.
- Implemented DoD Risk Management. Assessing compliance and performing remediation, automated with PowerShell

Systems/Software Engineering Intern at Lockheed Martin | King of Prussia, PA May 2018-April 2020

- Engineering work with Java, C++, GNU Radio on a large scale, micro-service driven, command and control application.
- Administration work with Windows and Unix environments, networking systems and more.
- Extensive work on agile teams, working with classified material, and creating automation systems.

Computer Engineering and Science TA at Elizabethtown College | Elizabethtown, PA Since May 2018

For: Computer Science 1, Digital Design I II, Software Engineering, Advanced Computer Engineering.

- Created new teaching material, lab projects, and documentation for lab hardware and software
- Wrote a manual for the Basys 3 FPGA. Includes a Verilog tutorial, targeted C compilation, RTL Design, verification, and timing analysis.
- Assisted students with lab activities and projects

Projects

Cosmic | Senior Project Since August 2019

Cosmic is a fully simulated 8-bit computer architecture. The entire architecture and instruction set was created from scratch and works in a rich environment. The environment includes a debugger, a full-fledged GUI and an assembler. Cosmic is hard to explain in words, but better in code: <https://github.com/clbx/Cosmic>

LoveCube | Personal Projects July 2020

LoveCube is a wireless message box based off the ESP32 written in C++. I built a circuit that connected notification LEDs and an OLED screen to an ESP32 to display messages that it pulls off a central server. The server is written in Python and uses a MySQL database to store messages sent to it by the users. I also modeled and 3D printed the enclosure that it's housed in. Software and designs are available on GitHub: <https://github.com/clbx/LoveCube>

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 accurate assumptions about the data.

Otis' development was fully automated with CI/CD, unit testing, automatic documentation, and code coverage.

All code is available on GitHub: <https://github.com/etown-blue-team/Otis>

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, C#, PowerShell, Python, Go, Swift, HTML/CSS, Bash, MySQL, Java/TypeScript, MATLAB, and more

Platforms: Windows, Linux, and Unix server environments, Git, Agile, JetBrains IDEs, Eclipse, CI/CD [Gitlab and Travis CI], Hardware Expertise, Embedded Systems, Software engineering methodologies, Retro-computing, Game Design.

Education & Certifications

Georgia Institute of Technology | Master of Science | Online May 2023

- M.S. Computer Science

Elizabethtown College | Bachelor of Science | Elizabethtown, Pa 3.42 GPA | May 2020

- B.S. Computer Engineering, B.S. Computer Science

Secret Level Department of Defense Security Clearance