Chris Cohen

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EDUCATION

Aug. 2017 – Present

Bachelor of Science (Software Engineering and Cybersecurity)

Purdue University in West Lafayette, IN

- 3.83 GPA
- 6x Dean's List 5x Semester Honors

WORK EXPERIENCE

May 2020 – Present

Embedded Software Engineering Intern

Qualcomm, QGOV Division

- TBD

May 2019 – Aug. 2019

Software Engineering Intern

Naval Surface Warface Center, Crane Division

- Improved US Navy missile sustainment efforts by upgrading an existing natural language processing algorithm to process failure databases.
- Held a valid 'secret' level security clearance given by the US Government.

TECHNICAL SKILLS

Programming Languages: C C++ Python ARM/x86 Assembly Bash Javascript

Relevant Knowledge

- MEMORY MANAGEMENT
  - Paging, Virtualization, and Cache Memory Hierarchy
  - Runtime Stack and Heap Management
- OS AND SYSTEMS PROGRAMMING
  - Software/Hardware Interrupts and Device Management
  - Asynchronous Inter-Process Communication
  - Return-Oriented Programming
  - Concurrency and Parallelism (Semaphores, Locks, Forking, Threading, Scheduling)
- OSI/ISO 7-LAYER NETWORK MODEL
  - UDP, TCP, methods for reliable data transport
  - IP addressing/routing, DHCP, and DNS translation
  - ARP, MAC addressing/routing, Multiple-access protocols for link-layer
  - Basic cryptography and security approaches

PROJECTS

April 2020

Web Server Honeypot (Extracurricular)

- Hosted an HTTPS Honeypot Server to lure attackers and collect information
- Graphical directory browsing and support for 14 HTTP response codes
- Automatic blacklisting for clients who send too many requests too quickly
- Analyzed logs and learned about different types of attacks on web servers

March 2020

Operating Systems - Process Hijacking in XINU

- Manipulated a victim process by locating and modifying return addresses and local variables in the runtime stack
- Learned about protection against this sort of attack (stack canaries)
- Studied how x86 interrupts, system calls, and function calls affect the runtime stack

Sept. 2019 - Oct. 2019

Systems Programming - Shell Interpreter in C

- Parsing and execution of commands
- File Redirection and Piping
- Signal Handling and Inter-process communication
- Forking subshell execution