Daniel Chen

U.S. Citizen

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EDUCATION

RUTGERS UNIVERSITY
New Brunswick, NJ
BS in Electrical & Computer Engineering
Expected Spring 2018
GPA: 3.2

TUFTS UNIVERSITY
Medford, MA
BS in Environmental Engineering
Graduated Spring 2013

EXPERIENCE

LGS INNOVATIONS, Cybersecurity R&D Intern
May 2017 – August 2017, Florham Park, NJ

- Developed a modeling and simulation tool to emulate software defined network infrastructure by integrating network emulators with virtual network elements and virtualization platforms.
- Implemented internal features for a network emulator using the GNS3 REST API and created a wrapper in Python to extend ease of use.

VERINA CONSULTING GROUP LLC, Environmental Engineer
September 2013 – December 2015, Bridgewater, NJ

- Created a remote telemetry data collection system to monitor a remediation system's effectiveness using microcontrollers and a GPRS module to write data to a Google Docs sheet using Python and bash scripting. This saved the client ~$20,000/yr in labor-related expenses.
- Engineered a soil vapor extraction and air sparging system that successfully remediated a client site.

PROJECTS

IP PHONE REVERSE ENGINEERING

- Penetration tested an IP phone by inspecting hardware components for potential weaknesses and extracting the firmware.
- Extracted binary files from flash memory and converted them into system files using Binwalk in order to disassemble and analyze assembly instructions with Hopper.

EMBEDDED AUTOMATED SECURITY CAMERA SYSTEM

- Worked in a team of four to design an automated security camera system that activated an HDMI camera feed to a VGA display upon detecting movement from PIR sensors, and used a stepper motor to move the camera towards the direction of detected movement.
- Worked on writing the controller in Vivado in VHDL as well as implement Xilinx HDMI, VGA, and Zynq processing system IP cores to reduce boilerplate code.

MALICIOUS NETWORK TRAFFIC ANALYSIS

- Captured and analyzed network traffic from compromised websites for unauthorized activity using Wireshark and Bro Network Monitor, focusing on injected Coinhive Javascript code.
- Traced traffic to proxy websites that executed scripts mining visitors' CPUs for cryptocurrency.
- Determined potential vulnerabilities and methodologies that could be used to detect, prevent, and trace back security breaches.

MORGAN STANLEY SPONSOR CHALLENGE WINNER, HackRU
October 2015, Rutgers-New Brunswick, NJ

- Won Morgan Stanley and Google's Best Use of API challenges by developing a speech-to-text/text-to-speech toy companion with three other team members by creating a hardware prototype that would respond to voice commands. (http://devpost.com/software/karebear)
- Prototyped with an Arduino, C++, and Python to create a functional demo that used an Arduino API to interact with a smartphone's sensors, allowing it to recognize and respond to voice commands.

WEB CRAWLER

- Building a web crawler to search sales on promotional websites for deals on school supplies.
- Programmed in Python on a Vagrant VM using beautifulsoup4 and PyQt4 to pull data from Javascript-rendered XML webpages.

SKILLS

COMPUTER LANGUAGES		TECHNOLOGIES		OPERATING SYSTEMS
Python	Assembly	Git	ESXi/Proxmox	Windows
C/C++	VHDL	Vivado	Virtualbox/VMWare	Linux CentOS/Debian
Java	MATLAB	Vagrant	ALU/Cisco CLI	Unix

RELEVANT COURSES

Systems Programming, Embedded Systems, Computer Architecture, Network Security, Data Structures, Digital Signal Processing, Linear Systems and Signals, Digital & Electronic Devices, Numerical Methods in MATLAB, Virtual Reality

HONORS

SPEAKER, EnviroTech Summit 2016
April 2016, Raleigh, NC
Invited to speak at the 2016 EnviroTech Summit on the Internet-of-Things for emerging environmental technologies (http://envirotechsummit.org/).