SCOTT HARVEY

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EDUCATION

Stony Brook University, New York *GPA: 3.62*
M.S. Computer Science *Expected May 2016*
B.S. Computer Science, B.S. Applied Math & Statistics *Dec. 2014*

SKILLS

Languages   C, Python, Java, x86-64, SQL, JavaScript, SML, MATLAB
Tools/Other   git, Vim, make, CMake, GDB, *nix, Perforce, MySQL Workbench, Wireshark

PROJECTS

SBUnix, *C/x86-64 Preemptive OS* *Spring 2015*
· Implemented COW forking, 64 bit ELF loading, ring-3 userland, timesliced prememption.
· Developed a shell with sleep/kill/ps, standard library, read-only FS, pipes, auto-growing stack.

File Descriptor Daemon, *C Networking* *Winter 2014*
· Designed a daemon which allows under privileged processes to obtain raw and packet sockets.
· Created to replace setuid or NET_CAP_RAW on a machine intended for packet socket programming.

On Demand Routing, *C Networking* *Fall 2014*
· Programmed a shortest-hop routing protocol to replace IP in static networks of unknown connectivity.
· Used packet sockets for route discovery and forwarding; local sockets for delivering payloads to apps.

xTCP, *C Networking* *Fall 2014*
· Implemented a reliable byte-stream transport protocol over UDP, based off TCP Reno.
· Featured smoothed-RTT based retransmission timeout and fast retransmission.

TravelociRaptor, *Java Webapp* *Spring 2014*
· Created a flight reservation and reverse auction webapp using JSP, SQL, and Bootstrap.
· Designed the MySQl database to support customers, employees, and managers.

Nachos, *Java OS* *Fall 2013*
· Worked on modules of a Java OS which ran COFF binaries using a MIPS emulator.
· Added virtual memory, a program loader, various syscalls, a write-back cache and a disk driver.

Spriter, *Java Application* *Fall 2012*
· Created a 2D drawing editor using Swing to create sequences of poses for animating game sprites.
· Completed from an unfinished and broken starting state of 25+ classes.

EXPERIENCE

Software Development Intern, *Arista Networks* *Summer 2015*
· Added features and tests in C++/Python to manage tunnel interfaces in EOS, their switch OS.
· Worked on a project that added support for layer-3 tunnels in a layer-2 routing protocol.

Research Assistant under Prof. Scott Smolka, *Stony Brook University* *July - Dec 2014*
· Researched run-time assurance frameworks using MATLAB/Simulink and Python.