Jonathan Sun

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EDUCATION

UC BERKELEY
B.A. in Cognitive Science
Minor in Computer Science
Expected May 2018 | Berkeley, CA

LYNBROOK HIGH SCHOOL
Grad. June 2014 | San Jose, CA

SKILLS

PROGRAMMING
Proficient:
Java • Python • SQL

Familiar:
C • PHP • JavaScript • HTML • CSS

PLATFORMS & FRAMEWORKS
Linux • MySQL • SQLite • Laravel

USEFUL TOOLS
Git • LaTeX

COURSEWORK

- Efficient Algorithms and Intractable Problems
- Database Systems
- Artificial Intelligence
- Computer Security
- Machine Structures (Computer Architecture)
- Data Structures & Algorithms
- Structure & Interpretations of Computer Programs
- Discrete Math & Probability Theory

AWARDS

- US Army Reserve National Scholar/Athlete Award (2014)

EXPERIENCE

SILICON VALLEY CHINESE SCHOOL | UI/UX Web Developer
Summer 2017 | San Jose, CA

- Created internal web pages for student registration and keeping track of student records.

VOICENT COMMUNICATIONS, INC. | Software Developer Intern
Summer 2016 | Mountain View, CA

- Designed the management websites that automatically fetches data and generates reports for the company's internal use as well as aggregate data from user profiles using SQL, PHP, and JavaScript.
- Performed QA product testing on new SaaS products, software updates, and filed bug reports.

SILICON VALLEY CHINESE SCHOOL | UI/UX Web Developer
Summer 2016 | San Jose, CA

- Created internal web pages for billing and keeping track of student records.

UC BERKELEY | CS61A Lab Assistant
Aug 2015 – May 2016 | Berkeley, CA

- Guided CS 61A students through labs, homework assignments, and projects.

PROJECTS

NETWORK ATTACK | Bash Script, C, Python
Exploited FTP vulnerability, analyzed and captured packets using Wireshark and tcpdump, manipulated seed in pseudo-random number generators, abused certificates to rewrite network traffic, performed DNS spoofing, and wrote bash scripts to automate the processes.

SECURE FILE STORAGE AND SHARING | Python
Ensures confidentiality, integrity, and authenticity in a compromised server that allows uploading/downloading, sharing, revoking, and updating files.

EXPLOITING VULNERABLE C CODE | Bash Script
Allows attacker to gain root access by taking advantage of buffer overflows, off-by-one, and ret2eax to bypass Address Space Layout Randomization in C code.

AI PAC-MAN GAME | Python
Created an intelligent Pac-Man that maximizes winning using Searching Algorithms, Constraint Satisfaction Problems, Minimax, Expectimax, Markov Decision Processes, Reinforcement Learning, Bayes' Nets, Hidden Markov Models, Inference, and Classification using Perceptrons.

DATABASE SYSTEM | Java
Includes File Management, B+ trees, Simple Nested Loop Join, Page Nested Loop Join, Block Nested Loop Join, Grace Hash Join, Query Optimization, and Concurrency Control.

WEB TRAFFIC RECORDER | Java
Used MapReduce and Hadoop to record and sort data using like the NSA's PRISM surveillance program.

OPTIMIZED IMAGE PROCESSOR | C
Used OpenMP and loop unrolling to achieve up to 9x speedup compared to the naive image processor.