EDUCATION:

Stony Brook University

M.S. - Computer Science B.S. - Computer Science

GPA: 3.7 GPA:3.2 - Major GPA:3.6 Stony Brook, NY

Expected: December 2018

May 2017

Relevant Course Work: Operating Systems, Software Engineering, Computer Architecture, Network Programming, Data Structures and Algorithms, Analysis of Algorithms, Database Systems, Principles of Programming Languages, Visualization, Systems Fundamentals, Computer Security, Theory of Computation, Graph Theory, Foundations of Computer Science, Professional Ethics in Information Systems, Technical Writing

WORK EXPERIENCE:

Computer Science Tutor

Education Opportunity Program, Stony Brook, NY

January 2016 - Present

Tutor Classes: Data Structures and Algorithms (CSE 214) and System Fundamentals 1 & 2 (CSE 220, 320)

- Teach students how to implement data structures such as Search Trees, Graphs, Stacks, Queues, Linked Lists, as well as discussing the implementation of algorithms and their run time complexities
- Teach students important concepts of systems programming such as, memory management, virtual memory, processes, threads, concurrency, file I/O, networking and sockets, signal handling, and IPC
- Help students understand programming in C and the Unix environment. Introduce students to working through the terminal.

Audio Visual Technician

Student Activity Center, Stony Brook, NY

September 2013 - May 2014

- Coordinate with event managers and/or concert directors to establish cues and direction
- Operate light, sound, and video equipment

PROJECTS:

YVM: Virtual Machine written in C++. Instruction set inspired by both x86 64 and RISCV. Supports general purpose programs. threaded programs, and networked programs. Progress: https://github.com/vblae/yscript

sbuOS: Preemptive OS written in C. Implemented virtual memory system, demand paging, ELF loading/execution, kernel-to-userspace API, read only file system, kernel threads, scheduling, pipelining, a standard library, and shell https://github.com/vblae/sbuOS

Wolfie Class: Online course building tool created with Spring MVC, Angular is, Google App Engine and Google Datastore. Primarily responsible for creating REST services, data relationship design, supporting search capabilities, and optimization.

Inverse TTT: Inverse Tic-tac-toe game server and client written in Python. Support for multiple concurrent games and allowing users to play a modified version of tic-tac-toe across the web through their terminals. https://github.com/vblae/ttt-game-server

Rockets: HTML5 Canvas and JavaScript game. Control an onscreen rocket by issuing commands or by writing custom scripts in a Unix-like command line interface. https://goo.gl/RsjxMv

Planets: HTML5 Canvas and JavaScript game. Game simulating planetary orbits. Allows users to create custom planets, look around the world, and see how planets interact. https://goo.gl/BvXdcZ

NBA Data Dashboard and Web Scrapper: Interactive dashboard created with D3.js and web scrapper written in Python. Allows users to select, highlight, and filter data points interactively. Web scrapper takes advantage of www.basketball-reference.com's consistent html structure to retrieve team log data and dump into a CSV file. Used Scikit-learn and Pandas for data preprocessing. Try it at: https://goo.gl/VBdW74

Steven Stocks: Online Stock Trading System created with MySQL, Java, Apache Tomcat, and Chart.js. Responsible for database design, writing backend services to support the site's transactions, and the site's overall look and feel. Site supports multiple users such as clients, stock brokers, and managers.

Demo: http://stevenliao.tech:8080/stevenstocks

Joaquin Chat: Chat server and client written in C. Allows users to chat across the web through their Linux terminal. Supports multiple concurrent connections, account creation, public and private chatrooms, and one-on-one private chats. https://github.com/vblae/JoaquinChat

Joaquin Shell: Linux shell written in C. Shell with a subset of bash functionalities. Support for job control, IO redirection, piping, and scripting. https://github.com/vblae/JoaquinShell

Programming Languages: C, C++, JavaScript, Java, Scala, Python, SQL, HTML/CSS

Frameworks/Libraries/Tools: git, gcc, make, ssh, vim, IntelliJ, Eclipse, Angular.js, D3.js, Spring MVC, Django, MySQL, MongoDB