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MICHAEL (YAO) RAO

U.S. Citizen

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EDUCATION

Stony Brook University, Stony Brook, NY September 2012 – December 2016

- Double Major in Computer Science and Applied Mathematics and Statistics Major GPA: 3.14
- Honors: Dean's List Fall 2013, Spring 2013, Fall 2014, Spring 2014

Stuyvesant High School, New York, NY September 2008 – June 2012

College Coursework: Software Engineering, Systems Fundamentals, Analysis of Algorithms, Wireless and Mobile Networking, Artificial Intelligence, Computer Networks, Databases, Calculus I-IV

SKILLS

- Proficient in Java, C, and UNIX
- Experienced in JavaScript, JQuery, HTML, MySQL, PHP, MIPS, and Python programming
- Strong presentation skills and organization leadership

EXPERIENCE AND PROJECTS

Sole Developer **MapReduce** **2016**

- Implemented multithreaded data analysis program in C based on the MapReduce programming model
- Exploited bounded buffer, limited threads, mutual exclusion and semaphores to vary speed and performance of program and to improve proficiency of multithreading and memory concepts

Sole Developer **UNIX Shell** **2016**

- Implemented a custom UNIX shell in C without using the *termios* library or *system* functions
- Enhanced Bash's file redirections and pipelines to improve performance and execution of commands
- Substituted built-in signals and controls with custom Job Control and Signal Handlers
- Incorporated custom features such as recognizing and utilizing git repositories as well as storing process IDs and retrieving process IDs to improve understanding of file management and multi-processing

Sole Developer **Dynamic Memory Allocator** **2016**

- Utilized Explicit Free List to replicate the functionalities of malloc, realloc and free in C
- Implemented Best-Fit, FILO, FIFO Free Lists to vary the performance of the program and to improve knowledge of Linked List and memory management in C

Lead Programmer **SPComics (Web Application)** **2015**

- Directed a team of four in developing a comic web application for content creation, reading and sharing
- Created Software Design Document and Software Requirement Specifications with UML Class, Use-Case, and Sequence diagrams as a project foundation
- Designed and developed Comic Page and Reading Page that monitors the user's reading and comic history using JavaScript and JQuery to optimize user experience
- Implemented Comic Creation Page with savable tools in JavaScript, JQuery and Google Datastore

Sole Developer **Journey Through Europe** **2014**

- Created UML Diagrams as framework and foundation for the board game Journey Through Europe
- Designed and implemented Graphic User Interface with interactive map of Europe in Java and HTML
- Developed AI with customized Dijkstra's Algorithm that finishes the game in minimal steps

Web Designer **Temple University** **2014**

- Designed and implemented a basic website for informative purposes with Adobe Dreamweaver, HTML, and CSS for Dr. Hai-Lung Dai Group

Science Intern **Columbia University** **2013**

- Implemented Monte Carlo algorithm to construct Brownian motion model using MatLab for Professor Tony F. Heinz Group

HOBBIES

Bodybuilding, Martial Arts, Philosophy, Classical Music, Violin, Basketball, Ping Pong, Billiard