Brian Nguyen

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EDUCATION

UNIVERSITY OF CALIFORNIA, SANTA CRUZ **Expected Jun 2024**

Bachelor of Science, Major in Computer Science | **Cumulative GPA: 3.94**

Awards & Certificates: Dean's Honors List, AT&T Technology Academy 2023

Relevant Coursework: Data Structures and Algorithms (Using C and C++), Principles of Computer Systems Design, Computer Systems and C programming, Programming Abstractions Using Python, Machine Learning, Analysis of Algorithms, Computer Graphics, Computer Architecture, Discrete Math, Multivariate Calculus, Linear Algebra

EXPERIENCE

CSE101 Tutor + Grader | UCSC CSE Department **Apr 2023 - Jun 2023**

- Debugged and explained Data Structures & Algorithms to over 100 students in C/C++ during 2 hour lab sections and 2 hour 1 on 1 zoom sessions per week
- Graded over 475 submissions of questions or parts related to verifying functionality of code

PROJECTS

Multi-Threaded HTTP Server | C **Mar 2023**

- Designed a server that accepts HTTP requests which respond to clients via POSIX system calls
- Utilizes a dispatcher thread, N (user-specified) thread worker pool, and thread-safe circular queue
- Concurrently processes up to N requests for higher throughput and produces an atomic, linearized audit log

CM1 Motor Tester App | Windows Forms C# **Aug 2022**

- Developed an app which controlled and tested 1 Cool Muscle CM1 Motor through TCP IP ethernet connection
- Rotates the motor precisely given set parameters via manual control or automated looping with optional delay

Message Filtering ("Firewall") Program | C **Dec 2021**

- Created a program that parses through text from prior given files containing a blocklist of words used for censoring subsequent deciphered user-inputted messages containing matching words
- Implemented and utilized custom hash tables, binary search trees, bloom filters, and bit vectors made from the ground up

RSA Public-Key Cryptography Program | C **Nov 2021**

- Created and developed a suite of programs to implement the RSA public-key cryptosystem from scratch, including a key generator, encryptor, and decryptor
- Implemented number theory includes an O(log(n)) step modular inverse, $O(\log_2(n))$ step modular exponentiation, O(log(min(a, b)) step greatest common division, and probabilistic prime number checker with a 0% false positive rate

SKILLS

Languages: Python, C++, C#, C, JavaScript, Java, HTML

Tools: Git/GitHub, Linux/Unix, Windows, macOS, Visual Studio, Valgrind

Technologies: Unity3D, Phaser, WebGL, Autodesk Maya, Source Engine, Vex

EXTRACURRICULARS

Rocket League Director | UCSC Slug Gaming **Oct 2021 - Present**

- Increased active community size by 40% since joining with effective leadership and advertisement using social media outlets (Twitter and Instagram)
- Supervised 10 teams of 3 to 4 players with involvement in 6 total college events and tournaments or leagues