

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++), Game Development Experience, Game Design Experience, Principles of Computer Systems Design, Comp Systems and C Programming, Machine Learning, Computer Graphics, Programming Abstractions Using Python, Analysis of Algorithms, 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

Schism | HTML, JavaScript, Phaser

May 2023 - Jun 2023

- Spearheaded team of 3 programmers to develop core gameplay, scene flow, and cinematics systems
- Collaborated with team of 5 developers and artists, resulting in a web based mobile-exclusive game with a unique time-based mechanic, data-driven experience progression, and advanced visual assets
- Developed a custom game engine that streamlined dialogue integration and scene transitions, resulting in a 50% reduction in development time and a seamless user experience, pivotal to the game's successful completion
- Emphasized a smooth mobile gameplay experience and self-teaching mechanics for players

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

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