Brian Nguyen

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EDUCATION

UNIVERSITY OF CALIFORNIA, SAN DIEGO   **Expected Jun 2026**
Master of Science in Computer Science

UNIVERSITY OF CALIFORNIA, SANTA CRUZ   **Oct 2020 - Jun 2024**
Bachelor of Science in Computer Science | GPA: 3.92 (Magna Cum Laude)
Awards & Certificates: Highest Honors, Dean's Honors List, AT&T Technology Academy 2023
Relevant Coursework: Applied Machine Learning, Data Structures and Algorithms (Using C/C++), Artificial Intelligence, Software Engineering, Natural Language Processing, Principles of Computer Systems Design, Analysis of Algorithms

EXPERIENCE

Baskin School of Engineering | Group & Individual Tutor and Reader   **Apr 2023 - Jun 2024**
- Tutored for Data Structures & Algorithms, Principles of Computer Systems Design, and Programming Languages
- Debugged and explained data structures and algorithms to over 100 students in C/C++ during 2-hour lab sections and 2-hour 1 on 1 Zoom sessions per week
- Organized group discussions (20+ students) and office hours to collaborate with students and find solutions to programming functionality issues, as well as introduce advanced programming concepts and techniques
- Graded over 575 submissions of questions or parts related to verifying the functionality of code

PROJECTS

ImageGen: AI Image Generation Website | React, Flask, Python, PyTorch, MongoDB   **Jan 2024 - Mar 2024**
- Contributed to front-end and back-end of AI image generation/editing website based on user input in a team of 4
- Revamped the front-end UI using React with image settings sliders and a results gallery; integrated it with Flask and ML Model files, enabling the generation of 10 images and user contributions to the MongoDB database
- Implemented the BLIP model allowing for image generation and testing capabilities for the CaptionGen feature, and preliminary back-end prediction functionality to generate edited images for the ImageEdit feature
- Developed the Explore page gallery grid with modal functionality allowing for real-time user interaction and feedback with 7 users generating images for the database to display when hosted

Transfer Learning for Image Classification | Python, PyTorch   **Dec 2023**
- Spearheaded a group project implementing transfer learning in PyTorch, achieving 1.04 loss and 71.8% accuracy with a fine-tuned ResNet 50 model, unfrozen from layer 1 to FCFF classifier layers, with a added softmax layer
- Applied advanced data augmentation techniques, including image resizing to 224x224, pixel mean and std normalization, and automatic augmentation with ImageNet rules
- Employed 90/10 training/validation split, 128 mini-batch size, manual cross-entropy loss function without Softmax, and ADAM optimizer with early stopping

Multi-Threaded HTTP Server | C   **Mar 2023**
- Designed a server that accepts HTTP requests and responds 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

SKILLS

Languages:	Python, C++, C#, C, JavaScript, Java, CSS, HTML
Frameworks/Libraries:	React, Flask, PyTorch, Pandas DataFrames, NumPy, Matplotlib
Tools/Technologies:	Git/GitHub, Linux/Unix, Windows, macOS, Visual Studio, Valgrind, MongoDB

EXTRACURRICULARS

Rocket League Director | UCSC Slug Gaming   **Oct 2021 - Jun 2024**
- Increased active community size by 40% since joining with effective leadership and advertisement
- Supervised 10 teams of 3 to 4 players with involvement in 6 total college events and tournaments or leagues