Brady Chan

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EDUCATION

University of California, Santa Cruz – Jack Baskin School of Engineering **GPA: 3.67**
Bachelor of Science in Computer Science *June 2023*

- *Related Coursework: Data Structures and Algorithms, Principles of Computer Systems Design, Database Systems, Full Stack Web Development, Agile Software Development, Parallel and Concurrent Programming*

EXPERIENCE

Computer Scientist ***October 2023 - Present***
Nawcwd

- Developed CUDA kernels and implemented digital signal processing algorithms for the Navy's radar system.
- Wrote comprehensive unit tests to verify the correctness of algorithms and speed of CUDA kernels.

Artificial Intelligence Research Intern ***March 2023 – August 2023***
Osaka University

- Leveraged NSD dataset and RISE method to investigate stable diffusion and fMRI image reconstruction.
- Redesigned linear model to map fMRIs to latent representation and pipelined encoding to stable diffusion.
- Delivered final presentation to professors and researchers showcasing methodologies and findings.

Undergraduate Research Assistant ***June 2022 – September 2022***
University of California, Santa Cruz

- Employed LSTM neural network to capture sequential patterns to learn optimal gameplay strategies.
- Developed pipeline for seamless game preprocessing and integration to model training process.

PROJECTS

Audio Visualizer | *C++* **May 2022**
Technologies Used: Git, Qt, OpenGL, Windows Audio Session API, Multithreading, Scrum

- Led 4 developers as the project lead, to create an audio visualizer utilizing Windows Audio Session API.
- Final release created using full-cycle software development including system design, release plans, implementation, sprint reports, testing, and a final release.
- Developed a multithreaded design to copy and process data from the endpoint buffer while concurrently generating visuals.

PintOS | *C* **February 2022**
Technologies Used: Git, Pthreads, Multithreading, Preemption, Mutex, Semaphore, Unix

- Developed a kernel for a low-level operating system to manage threads and the file system.
- Implemented thread preemption, thread priority, priority donation, and system calls.
- Utilizes thread safe operations to avoid race conditions and avoid possible deadlock scenarios.

Email System | *JavaScript, PostgreSQL* **November 2022**
Technologies Used: Git, React.js, Express.js, Node.js, Puppeteer, Jest, Material UI, OpenAPI

- Designed a full stack web application to allow users to retrieve emails through a user interface implemented with React and Material Ui.
- Created asynchronous RESTful API to be retrieved by the frontend via Express.js and PostgreSQL.
- Full application testing of all components between backend, frontend, and end to end.

TECHNICAL SKILLS AND ACHIEVEMENTS

- **Languages:** C/C++, CUDA, Python, JavaScript, HTML, CSS, React.js, PostgreSQL, SQL, Haskell
- **Developer Tools:** Git, Conda, Jupyter Notebook, Pytorch, Kubernetes, Docker, Qt