Brandon Chuang

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Education

University of California, Santa Cruz **Santa Cruz, CA**
Computer Science B.S. **Current GPA:** 3.5 2020–Present (Can Graduate December 2023)

Relevant Coursework

Machine Learning Basics | Intro to Natural Language Processing | Linear Algebra
Probability and Statistics for Engineers | Intro to Analysis of Algorithms | Computational Models
Computer Sys. and C Programming | Intro to Software Engineering | Programming Abstractions
Intro to Data Structures and Algorithms | Principles of Computer Systems Design

Programming Experience

Classwork

- Multi-Threaded HTTP Server (C, Git): Project used in class to demonstrate hard/soft modularity, multithreading (including deadlocks, race conditions, etc), remote procedure calls, serialization, etc.
- Unigram, Bigram, and Trigram feature extractors (Python): Project used in class to calculate perplexities of different subsections of the Billion Word Benchmark and demonstrate the effectiveness of different feature extractors. No starter code was given and the project is viewable on my Github.
- C programming: Various projects including a Huffman Encoder/Decoder, an RSA library, Hash table, bloom filter, shortest path finder using DFS, Kosaraju's algorithm, etc.

Competitive Programming

- Third place out of 74 in The 2021 ICPC Pacific Northwest Regional Contest division 2 competition.
- Applied a variety of data structures and algorithms to different programming problems.

Skills

- Programming: C, C++, Python, Kotlin, Tensorflow, HTML, Bash, Makefile
- Collaboration: Git, Jira, Scrum, Slack, Asana, Microsoft Teams
- Code Editors: Vim, VSCode, Android Studio
- Other: LaTeX, MatPlot, SQLite

Research/Work Experience

Research Assistant on Adaptive Floating Point **June 2021–September 2022**
Pomona Research Lab Remote

- Read and discussed prior work papers, Co-author on ICML 2022 paper submission.
- Compiled data on machine learning models with custom rounding code for analysis.

Software Development Intern **June 2022-Sept. 2022**
Expedera Santa Clara, CA

- Created custom Tensorflow models.
- Automated data collection and evaluation of programs through detached docker images.
- Implemented Google's BFloat16 floating point format in C++.
- Experimented on the effects on accuracy of varied quantization in pre-trained ML models.

Technology Assistant (lead, co-supervisor) **May 2021–June 2022, Sept 2022-Present**
Disabilities Resource Center (at UC Santa Cruz) Santa Cruz, CA

- Provided demonstrations of various assistive software in the Inclusive Computing and Technology Lab at the request of students, Accessible Media Coordinators, service coordinators, etc. Duties include: testing, installing, and/or troubleshooting computer software/hardware as needed.
- Promoted to lead role in December 2021 and to co-supervisor in June 2022 for Fall 2022: additional duties include creating the work schedule, managing inventory and products, and training new hires.