Eric Chang

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Education

University of California, Berkeley — Berkeley, CA
Bachelor of Arts in Computer Science — *Expected: May 2022*

Skills

Languages: Java, Python, C, SQL, Scheme, JavaScript, HTML/CSS, R, RISC-V Assembly
Developer Tools: Git, VS Code, Visual Studio, IntelliJ

Experience

Junior Mentor - Computer Science Mentors — 01/2021 - present
Data Structures Junior Mentor — *Berkeley, CA*

- Held weekly 1 hour sections teaching 5-6 people concepts in Data Structures, such as HashMaps, Sorting Algorithms, Dijkstra's, etc.

Treasurer - Cal Badminton — 06/2020 - present
Treasurer of Cal Badminton — *Berkeley, CA*

- Keep track of club budgets for socials and club supplies, such as shuttlecocks and uniforms
- Responsible for issuing club reimbursements

Academic Intern - UC Berkeley EECS Department — 06/2020 - 08/2020
Data Structures Academic Intern — *Berkeley, CA*

- Helped teach 25+ students course topics such as Dijkstra's, Union-Find, Hashtables, Red-Black Trees, etc.

Research Internship - UC San Diego — 06/2018 - 08/2018
Research Intern under Dr. Chung-Kuan Cheng — *San Diego, CA*

- Worked alongside Professor Chung-Kuan Cheng and others on research projects
- Studied the runtime of the All Pairs Minimum Cut brute force solution on randomly generated strongly connected directed graphs
- Researched and tested the viability of a cuff-less blood pressure monitor using a 3-axis accelerometer
- Co-authored two formal papers and published in the journal *Networks* and presented at *IEEE EMBC Conference*

California State Summer School for Mathematics and Science — 07/2017 - 08/2017
UC San Diego — *San Diego, CA*

- Worked and gained experience with Python, circuits, Audacity, Pd, Raspberry Pi and Arduino
- Researched the application of machine learning to audio files for a novel approach to audio style transfer

Publications

- Eric Chang, Chung-Kuan Cheng, et al., "Empirical Study on Sufficient Numbers of Minimum Cuts in Strongly Connected Directed Random Graphs," *Networks*, 2020; 76: 106-121.
- Eric Chang, Chung-Kuan Cheng, et al., "Cuff-Less Blood Pressure Monitoring with a 3-Axis Accelerometer," *2019 41st Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC)*, Berlin, Germany, 2019, pp. 6834-6837.

Projects

Gitlet | *Java* — Github: Private Repo

- Developed a basic version control system similar to Git
- Designed and implemented file storing structures and basic version control functionality such as committing, branching, merging, and creating remotes

Lines of Action | *Java* — Github: Private Repo

- Developed the Lines of Action board game, implementing the possible game moves
- Designed and implemented a game CPU using the min-max algorithm and heuristics
- Implemented a basic GUI for the board game