Eric Chang

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EDUCATION

University of California, Berkeley   Berkeley, CA
Bachelor of Arts in Computer Science and Statistics   *Expected: May 2022*
- **Relevant Coursework:** Computer Security, Machine Learning, Algorithms, Computer Programs, Data Structures, Discrete Mathematics and Probability Theory, Machine Structures, Data Science, Information Devices and Systems I & II, Probability, R Programming

SKILLS

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

EXPERIENCE

Junior Mentor - Computer Science Mentors   01/2021 - present
Data Structures Junior Mentor   *Berkeley, CA*
- Hold weekly 1 hour sections teaching 5-6 people concepts in Data Structures, such as HashMaps, Sorting Algorithms, Dijkstra's, etc., and working through practice problems

Officer - 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 version control system similar to Git
- Designed and implemented file storing structures and 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 game moves and rules
- Designed and created a computer opponent using a combination of the min-max algorithm and heuristics
- Implemented a GUI for the board, as well as included features for taking back moves, resetting, etc.