MATTHEW T. SIT

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EDUCATION

UNIVERSITY OF CALIFORNIA - BERKELEY **Berkeley, CA**

B.S. Electrical Engineering & Computer Sciences, B.S. Bioengineering (GPA: *--redacted--*) *Anticipated December 2019*

- **COMPLETED COURSEWORK:** Machine Learning (CS189), Data Structures (CS61BL), Computer Architecture (CS61C), Discrete Mathematics and Probability Theory (CS70), Multivariable Calculus (Math53), Linear Algebra/Differential Equations (Math54), Computing with Data (Stat133), Organic Chemistry (Chem3A/3AL), Biophysical Chemistry (ChemC130), Biological Transport (BioE104), Genetic Design Automation (BioE134), Thermodynamics/Electricity/Magnetism (Phys7B), Bioethics (BioE100), Web Design (CS198).
- **CURRENT COURSEWORK:** Algorithms (CS170), Probability for Data Science (Stat140), Info Devices/Systems (EE16A).

WORK & RESEARCH EXPERIENCE

EECS DEPARTMENT – UC BERKELEY **Berkeley, CA**

Undergraduate Student Instructor (Data Structures, CS61B) *June 2016 – Present*

- Polished teaching methodology of each specific course concept and customized its delivery for a section of 35-45 students.
- Catalyzed students' problem-solving intuitions in one-on-one interactions by inventing analogies and explicating strategies.
- Over 400 hours of experience teaching Java and Python.

DR. SUSANA CHUNG'S LAB – UC BERKELEY SCHOOL OF OPTOMETRY **Berkeley, CA**

Apprentice *January 2017 – Present*

- Developed a Matlab computer vision algorithm to extract retinal traces from videos using cross-correlation and interpolation.
- 11,000 lines of code written. Currently benchmarking with patient videos and on-track to publish a methods paper.

DR. PAMELA J. YEH'S LAB – UNIVERSITY OF CALIFORNIA, LOS ANGELES **Los Angeles, CA**

Apprentice *June 2014 – August 2014, June 2015 – July 2015*

- Eliminated manual calculation errors by creating an Excel template that calculates volume to add for each step of serial dilution.
- Brought to attention the need to explore the impact of the plate reading machine's variation in precision on results.
- Found concentration ranges that provoke bacterial mutation to slow evolution of drug resistance in Streptomycin and Cefoxitin.
- Determined triple drug combination interaction types by comparing bacterial growth to those of single and pairwise combinations.

PUBLICATIONS

1. N Singh, **MT Sit**, MK Schutte, GE Chan, JE Aldana, D Cervantes, CH Himmelstein, & PJ Yeh. "A Systematic Review of Differential Rate of Use of the Word "Evolve" Across Fields." *PeerJ*, 5:e3639; DOI 10.7717/peerj.3639 **(2017)**.
2. N Singh, **MT Sit**, DM Chung, AA Lopez, R Weerackoon, & PJ Yeh. "How Often Are Antibiotic-Resistant Bacteria Said to "Evolve" in the News?" *PLoS One*, 11(3): e0150396. doi:10.1371/journal.pone.0150396 **(2016)**.

VOLUNTEER & LEADERSHIP EXPERIENCE

BERKELEY ENGINEERS AND MENTORS (BEAM) **Berkeley, CA**

Director of Curriculum *February 2016 – Present*

- Reduced 6-10 hour mentor matching process to 1 hour by implementing Stable Marriage through Google Scripts/Forms/Sheets.
- Pioneered the organization's first Chromebook lesson, guiding 300 students to control pianos of bananas using Snap and Arduino.
- Designed 10-week course, leading 9 in producing an interactive curriculum that equips our mentors to best inspire students.
- Reinvented organization website using HTML, CSS, and JavaScript to improve UI/UX and ease maintenance.

HONORS & AWARDS

- **ETA KAPPA NU (HKN), UC BERKELEY** (Electrical and Computer Engineering Honor Society) *February 2017*
- **BIOENGINEERING HONOR SOCIETY, UC BERKELEY** *September 2016*
- **LEADERSHIP AWARD, CAL ALUMNI ASSOCIATION, UC BERKELEY** *August 2017*

SKILLS

- Java (Strong), Python (Strong), Matlab (Strong), R (Proficient), JavaScript (Familiar), SQL (Familiar), C (Familiar), Git (Strong), HTML (Strong), CSS (Strong), jQuery (Familiar), Microsoft Office (Strong).
- **ADDITIONAL INTERESTS:** Teaching, Trumpet, Singing, Graphic Design/UI/UX, Cooking/Baking.