MATTHEW T. SIT

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EDUCATION

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

B.S. Bioengineering, B.S. Electrical Engineering & Computer Sciences (GPA: 3.844) *Anticipated December 2019*

- **COMPLETED COURSEWORK:** Organic Chemistry (Chem3A/3AL), Biomedicine for Engineers (BioE10), Computer Architecture (CS61C), Data Structures (CS61BL), Structure and Interpretation of Programs (CS61A), Multivariable Calculus (Math53), Linear Algebra/Differential Equations (Math54), Thermodynamics/Electricity/Magnetism (Phys7B), Bioethics (BioE100), Web Design (CS198), Matlab (Vanderbilt Univ. via Coursera).
- **CURRENT COURSEWORK:** Biophysical Chemistry (MolecCellBioC100A), Biological Transport Phenomena (BioE104), Discrete Mathematics and Probability Theory (CS70).

WORK & VOLUNTEER EXPERIENCE

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.

EECS DEPARTMENT / COMPUTER SCIENCE MENTORS – UC BERKELEY **Berkeley, CA**

Lab Assistant / Junior Mentor (Structure and Interpretation of Programs, CS61A; Data Structures, CS61B) *June 2016 – Present*

- Polished teaching methodology of each specific course concept and customized its delivery for a section of 5 students.
- Catalyzed students' problem-solving intuitions in one-on-one interactions by inventing analogies and explicating strategies.
- Over 85 hours of experience teaching Python and Java.

PUBLICATIONS

1. 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).**
2. N Singh, **MT Sit**, MK Schutte, GE Chan, JE Aldana, D Cervantes, CH Himmelstein, & PJ Yeh. "Differential Rate of Use of the Word "Evolve" Across Fields" ***In Review.***

EXTRACURRICULAR ACTIVITIES/LEADERSHIP

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

Curriculum, External Affairs, Mentor *February 2016 – Present*

- Pioneered the organization's first genetics lesson, which guided 300 students to ultimately perform a strawberry DNA extraction.
- Redesigned entire organization website using HTML, CSS, and JavaScript to improve UI/UX and to ease maintenance.
- Implemented classroom management strategies and ideas from education research to promote STEM in local elementary schools.

FOR CHRIST'S SAKE A CAPPELLA / ASIAN AMERICAN CHRISTIAN FELLOWSHIP **Berkeley, CA**

- Increased maximum reach of group's Facebook page from 457 to 1019 people in one semester.
- Designed promotional material using Photoshop/Illustrator/Publisher to elevate theme of concert through brand development.
- Streamlined carpool process by using JavaScript-based Google Apps Scripts to automate reminders, logistics, and maintenance.

HONORS

BIOENGINEERING HONOR SOCIETY, UC BERKELEY *September 2016*

TECHNICAL SKILLS

- **COMPUTATION:** Python (Strong), Java (Strong), Matlab (Strong), JavaScript (Proficient), SQL (Proficient), C (Proficient), Scheme (Proficient), MIPS (Familiar), GitHub (Proficient), HTML (Strong), CSS (Strong), jQuery (Proficient), Microsoft Office (Strong), Photoshop (Proficient), Illustrator (Familiar).
- **LABORATORY:** Gel Electrophoresis (Familiar), Titration (Familiar), PCR (Familiar), Inoculation (Proficient), Serial Dilution (Strong), Centrifuge (Strong), Data Analysis (Strong), Micropipette (Strong), Endpoint Optical Density Analysis (Proficient), TLC (Strong), Melting Point (Strong), Recrystallization (Strong).
- **LANGUAGE:** Spanish (Familiar), Mandarin (Familiar), Cantonese (Familiar).
- **ADDITIONAL INTERESTS:** Trumpet, Singing, Graphic Design/UI/UX, Cooking/Baking.