

# MATTHEW T. SIT

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## EDUCATION

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### UNIVERSITY OF CALIFORNIA - BERKELEY

Berkeley, CA

B.S. Bioengineering, B.S. Electrical Engineering & Computer Sciences (GPA: 3.854)

Anticipated December 2019

#### Completed Coursework:

Organic Chemistry (Chem3A)  
Biomedicine for Engineers (BioE10)  
Data Structures (CS61BL)  
Structure and Interpretation of Programs (CS61A)  
Multivariable Calculus (Math53)  
Linear Algebra/Differential Equations (Math54)

#### Current Coursework:

Organic Chemistry Laboratory (Chem3AL)  
Thermodynamics, Electricity, Magnetism (Phys7B)  
Bioethics (BioE100)  
Computer Architecture (CS61C)  
Web Design (CS198)

## VOLUNTEER & WORK EXPERIENCE

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### 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 (CompSci61A)

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 75 hours of teaching experience.

## PUBLICATIONS

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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. "Is the Word "Evolve" Used More Often When Describing Organisms That Are Evolutionarily More Distant from Humans?" *In Review*.

## EXTRACURRICULAR ACTIVITIES/LEADERSHIP

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### BERKELEY ENGINEERS AND MENTORS (BEAM), UC BERKELEY

Berkeley, CA

Mentor, External Affairs, Curriculum

February 2016 – Present

- Pioneered the organization's first genetics lesson, which guided 300 students to ultimately perform a strawberry DNA extraction.
- Redesigned "About" page of 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, UC BERKELEY

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.

### ASIAN AMERICAN CHRISTIAN FELLOWSHIP, UC BERKELEY

Berkeley, CA

- Streamlined carpool process by using JavaScript-based Google Apps Scripts to automate reminders, logistics, and maintenance.

## HONORS

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### BIOENGINEERING HONOR SOCIETY, UC BERKELEY

September 2016

## TECHNICAL SKILLS

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- Python, Java, JavaScript, SQL, C, Scheme, MIPS, GitHub, HTML, CSS, jQuery, Microsoft Office, Photoshop, Illustrator.
- Gel Electrophoresis, Titration, PCR, Inoculation, Serial Dilution, Centrifuge, Data Analysis, Micropipette, Endpoint Optical Density Analysis, TLC, Melting Point, Recrystallization.
- Spanish (Familiar), Mandarin (Familiar), Cantonese (Familiar)