

MATTHEW T. SIT

msit@berkeley.edu | mattsit.github.io | linkedin.com/in/matthewsit

UNIVERSITY OF CALIFORNIA - BERKELEY

B.S. *Electrical Engineering & Computer Sciences; Minor in Bioengineering* (GPA: 3.785)

Deep Neural Networks, Machine Learning, Data Science, Computational Biology Algorithms, Algorithms.

Probability for Data Science, Multivariable Calculus, Linear Algebra & Differential Equations.

Berkeley, CA

August 2019

INDUSTRY

CITADEL LLC

Software Engineering Intern

Chicago, IL

June 2018 – August 2018

- Minimized re-build time of mission-critical market connector data system using modularized, dynamically-linked library plugins.
- Enhanced business utility of market system with C/C++ bridges that provide compiler independence and language extensibility.

RESEARCH

DR. SUSANA CHUNG'S LAB – UC Berkeley School of Optometry

Apprentice

Berkeley, CA

January 2017 – September 2019

- Developed a Matlab computer vision algorithm to extract retinal traces from videos using cross-correlation; paper in progress.
- Refined core algorithm from a 42 to 3 second runtime by downsampling, adaptively searching, and re-writing bottlenecks in C++.

DR. KEVIN BENDER'S LAB – University of California, San Francisco

Apprentice

San Francisco, CA

January 2018 – May 2019

- Optimized neuronal model by exploring parameter sensitivity and evaluating model scoring functions using correlation analyses.

DR. PAMELA J. YEH'S LAB – University of California, Los Angeles

Apprentice

Los Angeles, CA

June 2014 – August 2014, June 2015 – July 2015

- 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**, et al. "A Systematic Review of Differential Rate of Use of the Word "Evolve" Across Fields." *PeerJ* (2017).
2. N Singh, **MT Sit**, et al. "How Often Are Antibiotic-Resistant Bacteria Said to "Evolve" in the News?" *PLoS One* (2016).

TEACHING

EECS DEPARTMENT – UC Berkeley

Lecturer (Data Structures, CS61B) (*Teaching Assistant* and *Academic Intern* prior)

Berkeley, CA

June 2016 – July 2019

- 1300+ hours of experience teaching Java, data structures, and problem-solving strategies, to classes as large as 300 students.
- Reimagined exams, requiring runtime analysis after free response questions and standardizing syntax and cascading error rubrics.
- Empowered student confidence by introducing daily worksheets, which rated 3.8/5 in effectiveness (up from 3.4 without them).
- Spring 2018: Head of academic intern team of Machine Learning course, teaching monthly exam-prep sessions to 50 students.

BERKELEY ENGINEERS AND MENTORS (BEAM)

Director of Curriculum

Berkeley, CA

February 2016 – May 2018

- 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 mentors to best inspire their students.

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 & August 2018

SKILLS

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