

CHING FANG

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EDUCATION

University of California, Berkeley

B.A. in Computer Science

B.A. in Molecular & Cell Biology, Neurobiology track (Honors)

Expected Graduation: Fall 2018

Overall GPA: 3.5

RESEARCH EXPERIENCE

Carmena Lab | Berkeley EECS Department

Research Assistant

January 2018 - present

- Currently working on imposing learning rules in mice within brain-machine interfaces to better develop a neural control for neuroprosthetics. Data analysis applied on calcium fluorescence imaging in the brain.
- Examining possible deep learning architectures in the brain using brain-machine interface techniques.

Feldman Lab | Helen Wills Neuroscience Institute

Research Assistant

January 2015 - January 2018

- Thesis project: Computationally modeled neuron populations of the mouse somatosensory cortex. Applied machine learning methods and graph algorithms to determine a possible encoding mechanism of whisker movement in the brain. Presented in the MCB Poster Session (winner of best poster for neuroscience) and California Cognitive Science Conference.
- Previously implemented spike sorting algorithms using a template matching approach for use in data collection of neural recordings.

Collins Lab | Cognitive and Computational Neuro. Lab

Research Assistant

March 2015 - August 2015

- Developed front-end and back-end aspects of a behavioral experiment application with a focus on human reinforcement learning. Tested how human learning performance flattened over multi-dimensional rules.

TEACHING EXPERIENCE

CS 170: Algorithms, UC Berkeley

Undergraduate Student Instructor

August 2017 - December 2017

- Developed new course project for a class of 700+ students, and implemented staff solution.
- Led discussion and review sessions. Topics include asymptotic analysis, graph theory, linear programming, dynamic programming, approximation algorithms, etc.

CS 61B: Data Structures, UC Berkeley

Undergraduate Student Instructor (Head UGSI Summer 2017)

August 2016 - August 2017

- Created test problems, and helped manage course logistics for a class of 300+ students.
- Led discussion, lab, and review sessions. Topics include Java, balanced search structures, hashing, graph algorithms, etc.

RELEVANT COURSES

EE/CS Courses: Optimization Models, Machine Learning, Linear Algebra, Algorithms, Artificial Intelligence, Discrete Math & Probability Theory, Data Structures, Information Devices & Systems

Biology Courses: Neurobiology Lab, Cellular & Molecular Neurobiology, Circuits & Systems Neuroscience, Biochemistry, Genetics, Organic Chemistry

SKILLS

Languages (Very comfortable): Python, Java, Matlab

Experimental: EEGs, voltage clamps, electrophysiological recordings

Miscellaneous: Amazon Web Services, NumPy, scikit-learn, Git