

Margo Oka

EDUCATION

2019 **Mathematics BA / Minor in Computer Science**
UC Berkeley, Berkeley CA

WORK EXPERIENCE

AUG 2017 – DEC 2017

Raíces Recruitment and Retention Center

Tutor

Ran drop-in tutoring sections for CS61A with Raíces. The goal was to provide tutoring for Latinx students by Latinx students at Cal.

EXTRA CURRICULAR ACTIVITIES

JUN 2017 - PRESENT

Pioneers in Engineering (PiE)

Electrical Team. Use Eagle software to design and produce PCBs. Nonprofit organization puts on yearly robotics competitions for underserved high school students in the local area.

JAN 2017 - PRESENT

FEMTech Launch

Tutor. Run small weekly 2-hour tutoring sections for CS61A students. Prepare lectures and worksheets. Facilitate teamwork and sense of community. Create a welcoming inclusive environment for women in computer science.

AUG 2017 - PRESENT

Mathematics Undergraduate Student Association (MUSA)

Officer. Create a welcoming space for math undergraduates. Organize social and professional events. Work with alumni and companies such as Jane Street.

AUG 2017 - DEC 2018

Computer Science Mentors (CSM)

Associate Mentor. Run small weekly hour tutoring sections for students in CS61A and CS61B.

VOLUNTEER WORK

JAN 2019- PRESENT

UC Berkeley Food Pantry

Volunteer

Help students with food insecurity. Help keep the pantry clean and well-stocked.

JUN 2010- JUN 2014

Ygnacio Valley Public Library

Library Aide

Shelved and cleaned books. Set up crafts and activities for young library patrons. Helped keep the library orderly and inviting.



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NOTABLE PROJECTS

2017

Rudimentary SQL Interpreter/Database

Implemented support for: Create table, Load, Drop, Store, Insert into, Print, Select, arithmetic operators, and table joins. (Java)

2018

Basic Shell/Terminal

Support for cd and pwd, implementation of program execution, path resolution, input/output redirection (> and <) and signal handling. (C++)

2018

Process Scheduler

Implemented multithreaded process scheduler with priority and priority donation for Pintos. Also supports round-robin process execution. Synchronization via locks, semaphores, and condition variables. (C++)

2018

Pac-Man

Implementation of AI for multiple agents, alpha-beta pruning, expectimax, minimax, identifying useful evaluation functions to evaluate game states, reinforcement learning, value iteration, asynchronous value iteration, q-learning. Basic intro to Machine Learning and back propagation. (Python)

2017

Handwriting Extrapolation

Given sample handwriting program can extrapolate handwriting and produce images of any text in that handwriting. (MatLab)

2018

Secure File Sharing Client

Implement cryptographically secure file uploading, downloading, sharing scheme; similar to Dropbox. Used signatures, MACs, Diffie-Hellman, cryptographically secure hash functions etc. (C++)

2018

Voice Controlled Car

Built voice control car on breadboard. Designed and wired circuits, soldered. Used closed-loop design to ensure car drove straight. Used PCA and SVD to reduce noise of audio input. Coded on Arduino Launchpad. (C++, Jupyter Notebook-Python)