

# Matthew Tang

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## Education

### University of California, Berkeley

2018 – 2022

B.S. Electrical Engineering and Computer Science (EECS) | GPA 4.0

Regents' and Chancellor's Scholar (top 2%)

### Relevant Coursework (\*in progress)

[CS61B] Data Structure & Algorithms

[EE16A/B] Designing Information

[CS170] Efficient Algorithms\*

[CS70] Discrete Math & Probability

Devices & Systems I and II

[CS188] Artificial Intelligence\*

[CS61A] Structure of Computer Programs

## Projects

### ParkMe – HackMIT

2019

- Crowdsourced parking availability app using computer vision & geocoding for curb detection
- Back-end: JavaScript & Python, Frontend: React, Team size: Four

### ShareFund – LA Hacks

2019

- Democratic hedge fund web app using algorithmic trading and machine learning
- Back-end: JavaScript & Python, Frontend: React, Team size: Three

### Aux4All – Cal Hacks

2018

- Egalitarian song queue & voting system to bypass the limitation of single Bluetooth connection
- Back-end: JavaScript, Frontend: React Native, Team size: Three

### Autonomous Vehicle – MIT Beaver Works Summer Institute

2017

- Developed algorithms for autonomous robot cars using a potential field PD controller (LiDAR), computer vision (OpenCV), and AR tag detection to navigate hazards. Team size: Five

## Experience

### USC Viterbi Interaction Lab – Summer Undergraduate Researcher

2019

- Developed a novel model to improve human trust and cooperation with socially-assistive autonomous robotic systems.
- Created an action selector for the robot to estimate human beliefs and take actions to correct them using reinforcement learning for dynamic environments with uncertainty.

### UC Irvine Khine Lab – Research Intern

2015 – 2017

- Designed wearable biomedical devices by fabricating nanotechnology-based sensors and incorporating circuitry. Programmed in MATLAB, Arduino, and Processing.

### Golden Gate Science Olympiad – Director of Operations

2018 – Present

- Host annual Science Olympiad invitational with 23 events for 1000+ high school students
- Improve and update website, develop new resource center page using Jekyll, oversee operations and room reservations, meet weekly for planning purposes. 100+ hours service.

## Publications

- Matthew Rueben, **Matthew Tang**, Eitan Rothberg, and Maja Mataric, "Helping Users Develop Accurate Mental Models of Robots' Perceptual Capabilities: A First Approach" SCRITA held in conjunction with IEEE International Conference on Robot & Human Interactive Communication. (New Delhi, India) **2019**
- **Matthew Tang**, Michael Chu, and Michelle Khine, "Design & Fabrication of Nanowrinkled Thin Film Sensors for a Finger Flexion Assessment Glove" AAAS Annual Conference. (Austin, TX) **2018**
- **Matthew Tang**, Michael Chu, and Michelle Khine, "Fabrication & Evaluation of Gold Dry Electrodes in a Long-Term Wireless Heart Monitor System" AAAS Annual Conference. (Boston, MA) **2017**

## Awards

- Dean's Honors List, Edward E. Kraft Award (Freshman 4.0 GPA) **2019**
- MIT Beaver Works Autonomous Robot Car Grand Prix: 2<sup>nd</sup> Place (13 teams total) **2017**

## Activities

Eta Kappa Nu (EECS) Honors Society, Berke1337 (Cybersecurity), Regents & Chancellor's Scholars Association

## Skills

Python, Java, JavaScript, React, ROS, RViz, LaTeX, Git, C, MATLAB, Arduino, AutoCAD