Jonathan Murata

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(redacted)
(redacted)

Education

University of California, Berkeley | Berkeley, CA | August 2015 - May 2019 (4th Year)

B.S. **Electrical Engineering & Computer Science**

Data Structures, Probability & Random Processes, Efficient Algorithms & Intractable Problems, Artificial Intelligence, Operating Systems & Systems Design, Computer Architecture, Information Devices & Systems.

B.S. **Mechanical Engineering**

Mechatronics Design, Microprocessor-Based Mechanical Systems, Dynamic Systems & Feedback Control, 3D Modeling, Solid Mechanics, Fluid Mechanics, Thermodynamics, Heat Transfer, Mechanics of Materials.

Overall GPA: **3.954**

Honors to Date May 11, 2018. Deans List: Spring 2016, Fall 2016, Spring 2017, Fall 2017.

Punahou High School | Honolulu, HI | August 2011 - May 2015

Work Experience

University of California, Berkeley | Berkeley, CA | August 2017 - present

Computer Architecture (CS 61C) uGSI Summer 2018, Fall 2018

Undergraduate Student Instructor (uGSI): Create & update homework, projects, labs. Teach 2 discussion + lab sections of 40 students. Weekly office hours. 950 students enrolled. *Su '18* **Rated 4.33/5** *(4.32 dept. avg)* **teaching effectiveness, 4.75/5** *(4.51 dept. avg)* **helpful in understanding material.**

Data Structures (CS 61BL) Tutor Summer 2018

Control of Unmanned Aerial Vehicles (ME 136) Reader Fall 2017

Richard Matsunaga & Associates Architects Inc. | Honolulu, HI | May 2016 - August 2016

Summer Intern

Modeled buildings in Revit & AutoCAD. Reviewed project submittals from Civil/Mechanical Engineering firms. Collected field measurements at job sites.

Research

Poly-PEDAL Laboratory | Undergraduate Researcher | September 2016 - June 2018

Inverted, Rod-Running Cockroach Robot Created a cockroach robot operating on an alternating tripod system. Mimics real-life cockroach thin-rod running.

Squirrel Biomechanics Study Assisted in data collection to study squirrel jump optimization and motor skills when leaping from simulated tree branches.

Projects

Siemens Research Hackathon **Bumper Quads** *Berkeley High Performance Robotics Lab*. Navigate a space without the use of range finding sensors, for lower cost use in a hostile environment. Solved with a touch-based mapping algorithm on a physical quadcopter. Programmed in **Python, ROS**. Quadcopter: Bitcraze **Crazyflie 2.0**.

Software **Kingdom Conqueror** *CS170.* Find lowest cost conquering tour over a set of kingdoms. Solved using ILP and Gurobi Optimization software. Programmed in **Python**. **Project Competition Rank #4 of 230 teams.**

Gitlet *CS61BL.* Mini version control system to mimic the functionality of git. Programmed in **Java**.

Packet Pushing *EECS126*. Optimize sending packets through a BEC. Solved by transitioning from single to soliton distribution. Programmed in **Python**. **Lab Competition Rank #1 of 205 students.**

Design **BearWatch** *ME135.* Security tower to watch over items in a selected area. When item is removed, BearWatch sounds an alarm & tracks/records the thief with a servo-mounted camera. Programmed in **LabView**.

JustInCase *E27.* 3D-printable iPhone case with a universal, slide-in attachment system.

Leadership

Tau Beta Pi | Industrial Relations/Student Relations Officer | September 2016 - May 2018

New Student Services | Golden Bear Orientation Leader | March 2017 - August 2017

Skils

Proficient in Python, Java, C, MATLAB, LabVIEW (NI Certified Associate Developer), Latex.

Knowledgeable in HTML, RISC-V Assembly, C++.

Design in SolidWorks, Fusion360, AutoCAD, Autodesk Revit.