Jonathan Murata

jonmurata.github.io
jmurata@berkeley.edu
(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**

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 and update homework, projects, and labs. Teach discussion & lab section of 40 students, with weekly office hours. Fall 2018 enrollment of 950 students.

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.