

Jonathan Murata



jonmurata.github.io

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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 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, Bear-Watch 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

Skills

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.