

Jonathan Murata

jonmurata.me

jmurata@berkeley.edu | (phone redacted)

linkedin.com/in/jmurata/

EDUCATION

- **University of California, Berkeley** Berkeley, CA
B.S. Electrical Engineering & Computer Science *August 2015 – May 2019*
B.S. Mechanical Engineering *August 2015 – May 2019*
GPA: 3.96

Relevant Coursework:

- *Algorithms* ○ *Artificial Intelligence* ○ *Probability & Random Processes* ○ *Machine Learning*
- *Machine Structures* ○ *Operating Systems* ○ *Advanced Computer Architecture* ○ *Parallel Computing*
- *Data Structures* ○ *Embedded Systems* ○ *Feedback Control Systems* ○ *Mechatronics Design*

EXPERIENCE

- **Apple Inc.** Cupertino, CA
Systems Software Engineer, Platform Architecture Department *August 2019 - present*
 - **Team Objective:** Bridge the gap between Software and Hardware, influencing performance improvements, power efficiency, security, and the programming ease of Apple products.
 - **Job Description:** Prototype and analyze architecture and operating system proposals. Interface kernels and drivers with processor & SoC models.
- **University of California, Berkeley EECS Department** Berkeley, CA
Undergraduate Student Instructor *August 2017 - August 2019*
 - **Operating Systems (CS 162) 20-hour Head GSI:** Spring 2019, Summer 2019. Teach 2 discussions per week (80 students). Hold design reviews for the Pintos Operating System projects. As Head TA: manage all TAs, handle course setup/logistics/grading.
 - **Machine Structures/Computer Architecture (CS 61C) 20-hour GSI:** Summer 2018, Fall 2018. Teach 2 discussion, 2 lab sections per week (100 students). Course content lead: managed homework, discussion worksheet, lab, and project preparation.
 - **Data Structures (CS 61B) 20-hour GSI:** Summer 2019. Teach 4 lab sections per week (35 students). 3 hour labs consist of coding exercises, worksheets, and mini-lectures. Quality control projects and lab assignments. As an intro course, advise students on the field of Computer Science.

PROJECTS

- **BobaBot:** Automatic Boba (milk tea & tapioca pearls) dispenser. 3 stage-dispensation (pearl, tea, creamer) with rotating service plate. Embedded System Design Lead: interfaced pumps and motors to Raspberry Pi and Arduino, customized a two-phase commit system to synchronize hardware. Programmed in Python.
- **Swarm Lab Persistent Metadata:** System tool for **Global Data Plane (GDP)**. Manage metadata storage and access on Unix-based systems to improve fault tolerance. Standardized storage format and enforced GDP agent/service isolation with user files and OS permissions. Programmed in C.
- **Kingdom Conqueror:** Find lowest cost conquering tour over a set of kingdoms. Converted problem to ILP and solved with Gurobi Optimization software. Competition Rank 4 of 230 teams. Programmed in Python.
- **Poly-PEDAL Lab Cockroach Robot:** Inverted, rod-running cockroach robot. Self-directed project to create a mechanical cockroach operating on an alternating tripod system to mimic real-life cockroach thin-rod running. Robot includes 3D-printed limbs with a servo motor tension system. Advised by Prof. Nate Hunt.
- **BearWatch:** Security tower to watch over items in selected area. When an item is removed, sounds an alarm and tracks/records the thief with a servo-mounted camera and computer vision. Programmed in LabVIEW.

SKILLS

- **Programming:** Python, C/C++, Java, MATLAB, LabVIEW *proficient bolded*
- **Tools & Design:** Latex, Git, HTML, CSS | SolidWorks, Fusion360, AutoCAD, Adobe Illustrator