Jacqueline Lam

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EDUCATION

University of California, Los Angeles (GPA: 3.687) *Anticipated June 2021*
Bachelor of Science in Computer Engineering

SKILLS

Programming language: C, C++, Python, Java, Bash Scripting
Software: Android Studio, MATLAB, Xcode, Linux

Electrical Engineering Applications: Cadence Virtuoso, Arduino,, Raspberry Pi, EAGLE(PCB Design), SMD soldering, Debugging

PROFESSIONAL EXPERIENCE

Software Engineering/ Firmware Intern at Marvell Semiconductor ***June 2020 - Sept 2020***
Santa Clara, California

- Wrote/verified **Python** script that iterated through multiple testing conditions of a NAND flash memory card and generated csv files containing raw program, erase, and read timings of those NANDs.
- Wrote another **Python** script that processed millions of lines of NAND timing data within minutes and automated generation of PowerPoints containing various graphs that highlighted prominent NAND timing characteristics

Software Engineering Intern at Viasat ***June 2019 - Sept 2019***
Carlsbad, California

- Developed an **Android mobile app** with **Android SDK** (Software Development Kit) in **Java** to interface with a military BATS-D handheld radio by providing an alternate voice link over a Link 16 network.
- Using multithreading, created features to enable PTT (push to talk) audio transmission and real time status updates on whether audio was being sent or received.
- Encoded audio using OPUS codec and created a specific data format to send through TCP socket over a network

PROJECTS

Mini Game Console for UCLA IEEE SMD Soldering Workshop ***July 2020***

- Designed a mini game console PCB in EASY EDA using an OLED display, joystick module, LEDs, and ATTINY84 as the MCU
- Coded game displayed on the OLED screen using I2C communication protocol to handle user interaction with the joystick and buttons. Project link: https://www.instructables.com/id/Mini-Game-Console-With-ATTINY84-and-OLED-Display/

BLE Enabled Car with Autonomous Features (Individual Project) ***July 2019***

- Built Arduino Nano controlled car with HC-05 bluetooth module to communicate with a graphical application on a laptop
- Programmed application in Processing(Java) with a user interface that emulated a game controller prompted by certain keys to send commands to car to accelerate, brake, and move in any direction
- Programmed Arduino Nano to control 2 gear motors using an H-bridge and implemented a PID feedback control loop using 3 IR sensors for object detection

5 Bit Absolute Value Comparator (Digital Design Class) ***March 2020***

- Designed schematic and layout in Cadence Virtuoso to create absolute value and comparator module at transistor and logic gate level using standard and customized cells
- Simulated circuit in Spectre to identify critical path and meet time and energy constraints

Viasat DevHack: ViaSlack ***July 2019***

- Streamlined the experience of new employees by programming a **Slackbot** in **Python**.
- Integrated a **Raspberry Pi** and **ultrasonic sensor** with the **Slackbot API** to provide real time updates on the availability of employees in the office.

IDEAHacks (Hardware Hackathon, placed 5th overall): Smart Sleep Mask ***January 2019***

- Created a sleep mask that measured heart rates to gradually wake up individuals at the most optimal point in their sleep cycle, with respect to the amount of time they inputted to sleep.
- Calibrated a heart sensor linked to Arduino MCU, 3 LED strips attached inside the sleep mask, and a keypad for user to input their desired sleep time.
- Programmed the conversion of signals from the heart beat sensor to BPM to calculate optimal point in sleep cycle

CAMPUS AND COMMUNITY INVOLVEMENT

Institute of Electronics and Electrical Engineering (IEEE) Open Project Space(OPS) Lead

- Created 10 lectures throughout the year to present to 120 students about introductory electrical engineering topics, dynamic circuit applications, and final capstone.
- Managed the budget and organized the annual bill of materials for program-wide orders.

Community College Engineering Outreach at El Camino College

- Helped organize and ran a workshop at a local community college which included hands on projects from OPS program.
- Gave two lectures about basic electrical engineering principles and assisted students with their assigned projects.