**EDUCATION**

**CAL POLY SAN LUIS OBISPO, SAN LUIS OBISPO, CA** Expected Graduation June 2018

B.S. Electrical Engineering

**SAN MARINO HIGH SCHOOL, SAN MARINO, CA** August 2010 - June 2014

Activities: Varsity Tennis, Marching Band, and Orchestra

**TECHNICAL PROJECTS**

**QUENCH (STARTUP-WEEKEND HONORABLE MENTION)** January 2016 - Present

* Prototyped a hydration accessory that reminds users on their phone and wearable to drink water
* Employs a JSON library to send and receive packets over Bluetooth containing load sensor and accelerometer data
* Utilized a load sensor, water level sensors and accelerometers to retrieve data on water levels

**RAT CENTRAL PROCESSING UNIT (CPU)** January 2016 - March 2016

* Programmed a CPU in VHDL that decodes assembly code, operates arithmetic functions, and outputs through VGA or leds
* Featured 2 KB of RAM and 18 KB of ROM running at a 2.5 kHz clock cycle
* Wrote Flappy Birds in Assembly Language which was uploaded onto the Basys board for demonstration

**POWER SUPPLY** September 2014 - December 2014

* Created a power supply with variable voltages between 0 – 20v displayed on seven segment displays
* Learned fundamental technical skills including PCB design with CAD (Diptrace), soldering, crimping, and heat shrink
* Introduced to the manufacturing process of etching, stripping, and developing PCBs

**UROV (UNDERWATER REMOTELY OPERATED VEHICLE)** September 2014 - June 2014

* Soldered and then applied heat shrink to the wires of the thrusters and camera which controlled movement and vision
* Programmed an Arduino mega to run tests on two, then four motors wired to motor shields
* Qualified to compete in the Marine Advanced Technology Education (MATE) International UROV Competition

**EARPHONE PROJECT** October 2014 - Present

* Prototyped earphones that automatically pause when pulled out of the ear and resume when put back into the ear
* Identified that the earphones functionality can be represented with OR gate logic
* Tested different sensors including velostat pressure sensors to sense when the earphones were in the ear

**SUMO BOT** September 2014 - October 2014

* Built a sumo wrestling robot that stayed in an arena of black lines while pushing opposing robots out of the ring
* Wrote Arduino code to interpret phototransistor sensor values and to power the motors

**WORK EXPERIENCE**

**TAIWAN TECH TREK SUMMER INTERN (2ND PLACE)** June 2016 – August 2016

* Researched and developed systems that assist surgeons with minimally invasive surgery
* Evaluated ultrasonic, light, magnetic field and temperature sensors as potential distance sensors
* Coded an Arduino to process sensor values and print it to the Serial for other software to use
* Visualized Arduino sensor data using Processing to 3-D model values of the magnetic field sensors

**KWA PERFORMANCE INDUSTRIES INC., CITY OF INDUSTRY, CA** June 2013 - August 2013

*Summer Assistant Technician*

* Worked with KWA products to replace damaged chassis and parts with upgraded components

**EXTRACURRICULARS**

**MUSICAL CONNECTIONS, SAN MARINO, CA** September 2001 - Present

*Founding Member, President, Vice President, Historian & Publicity Chair*

* Led a group that brings music to nursing homes and retirement homes throughout Southern California
* Raised funds through benefit concerts to donate 10 pianos to various nursing homes in need of one
* Assisted campers at the Hearts in Harmony Summer Camp. The camp helps to teach music to children with special needs

**BOY SCOUTS OF AMERICA** September 2001 - Present

*Eagle Scout of Honor*

* Awarded the Eagle Scout of Honor in 2012. Remains an active member of Troop 358, Rose Bowl District
* Organized volunteers and raised funds to refurbish fences at the Mandarin Baptist Church of Los Angeles

**SKILLS**

Software: VHDL, Eagle, Processing, Assembly Language, Diptrace, HTML, CSS, Python, PowerPoint, Excel, Balsamiq, Lucidchart

Hardware: Arduino, Amateur Ham Radio Operator, Soldering, Oscilloscope