

BENJAMIN YEE

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EDUCATION

CAL POLY SAN LUIS OBISPO, SAN LUIS OBISPO, CA

B.S. Electrical Engineering

Expected Graduation June 2018

SAN MARINO HIGH SCHOOL, SAN MARINO, CA

Activities: Varsity Tennis, Marching Band, and Orchestra

August 2010 - June 2014

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
- Worked on Eagle projects assisting such organizations as the Pasadena Ronald McDonald House, Union Rescue Mission, American Military Museum, and the Boys and Girls Club of LA

SKILLS

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