BENJAMIN YEE

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EDUCATION

CAL POLY SAN LUIS OBISPO, SAN LUIS OBISPO, CA Expected Graduation December 2018
B.S. Electrical Engineering | GPA: 3.23

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

WORK EXPERIENCE

MEDSPARK SAN LUIS OBISPO, CA September 2017 - Present
Electronic Design Engineer
- Devised unique solutions for various applications ranging from consumer electronics to neural stimulators
- Created evaluation boards for various ICs ranging from power to analog front end design

TEXAS INSTRUMENTS INTERN June 2017 – August 2017
Applications Engineering Intern
- Evaluated the PLLatinum simulator software by comparing LMX25xx board measurements to the simulated values
- Tested PLL EVMs for phase noise, lock time, and spurs with an Agilent E5052A Signal Source Analyzer
- Updated designs for a dual PLL board on Altium to be up to standard with Texas Instrument's CAD requirements

TAIWAN TECH TREK SUMMER INTERN (2ND PLACE) June 2016 – August 2016
- Researched and developed minimally invasive systems that assist surgeons with navigating a scalpel in the human body
- Evaluated ultrasonic, light, magnetic field and temperature sensors as potential distance sensors

TECHNICAL PROJECTS

USB-C LI-PO BATTERY CHARGER January 2018 - Present
- Developed a reference design around ROHM Semiconductor's USB-C PD Controller and Buck-Boost IC
- Programmed firmware for USB-C power delivery negotiation as UFP and DFP with various Power Data Objects(PDO)
- Utilized the Buck-Boost IC for different Li-Po configuration(1s-4s) and optimized charging states(trickle charge-fast charge)

PHASE LOCKED LOOP DESGIN January 2017 - March 2017
- Constructed a PLL out of the necessary analog components: crystal oscillator, VCO, loop filter, and mixer
- Characterized the PLL's crystal oscillator and measured phase noise, open loop gain, and spectral power density of the design

ULTRASONIC LUXMETER September 2017 - December 2017
- Developed a lux meter that encodes light intensity into frequency and transmits using ultrasonic transducer on 40kHz carrier
- Designed analog circuitry that demodulates the waveform and translates the signal into units of candlelight

QUENCH (STARTUP-WEEKEND HONORABLE MENTION) January 2016 – June 2017
- Prototyped a hydration accessory that reminds users on their phone and wearable to drink hydrate
- Employs a JSON library to send and receive packets over Bluetooth containing load sensor and accelerometer data

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 are in the ear

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, a camp that 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: Altium, LTSpice, Eagle, VHDL , C,Python, Assembly Language, Diptrace, HTML, CSS, PowerPoint, Excel
Hardware: Raspberry Pi, Arduino, Soldering, Oscilloscope, Network Analyzer, Logic Analyzer, Spectrum Analzyer