JEFFREY CHEN

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Education

University of California, Los Angeles

B.S., Electrical Engineering
Exp. March 2018 | GPA: 3.78

Coursework

+ Computer Systems Architecture
+ Logic Design of Digital Systems
+ Principles of Feedback Control
+ Digital Signal Processing
+ Circuit Theory
+ Introduction to Algorithms
+ Comp. Networks: Physical Layer
+ Intro to Computer Graphics

Honors

+ Eta Kappa Nu Honor Society
+ Dean's Honor List
+ 2015 – 2016 Eric and Peggy Johnson Scholarship in Engineering

Skills

Programming Languages

+ C / C++
+ Python
+ Java
+ Javascript
+ HTML / CSS
+ SQL
+ Linux

Software

+ MATLAB
+ Microsoft Visual Studio
+ CadSoft EAGLE
+ LTspice
+ Siemens Teamcenter/NX
+ Tableau

Hardware

+ Schematic Capture/PCB Design
+ Systems Integration
+ Embedded Systems/Firmware
+ Atmel AVR
+ Texas Instruments MSP430

Professional Experience

Space Exploration Technologies (SpaceX), *Hawthorne, CA*

Firmware Engineering Intern — *June 2017 – Sept 2017*

- Delivered flight-critical firmware implementing maximum power point tracking and DC-DC power conversion for the Dragon 2 spacecraft's power systems
- Implemented various TI-microprocessor firmware driver upgrades, in addition to developing board testing procedures for firmware validation

Vehicle Build Engineering Intern — *Sept 2016 – Dec 2016*

- Undertook the full design and release of an updated drag-on electrical harnessing kit for the Falcon 9 2nd stage engine, including communicating requirements across departments, routing harnesses in Siemens NX CAD, and creating formboard drawings and manufacturing instructions
- Developed hardware calibration procedures for an electrical harness glitch detection circuit

Northrop Grumman Corporation, *Redondo Beach, CA*

Systems Engineering Technical Intern, DARPA 100G — *July 2016 – Sept 2016*

- Architected client-server model including air-to-ground node links to support development of system controller interfaces for a 100Gb/s RF backbone communications system

Engineering Projects

Custom Auto-Stabilized Quadcopter (Personal Project)

- Built quadcopter running custom-written flight control software on the ATmega328 AVR microcontroller
- Exploited AVR architecture-specific features via low-level register manipulation in order to optimize performance of a 200 Hz closed-loop control system
- Implemented sensor fusion techniques to increase reliability of IMU readings for flight control

Steganographic Audio Encoder/Decoder

- Conceived and implemented a design for a novel audio codec which hides data in audio streams by injecting encoded bits into perceptually insignificant portions of the audio's frequency spectrum
- Delivered a thorough implementation of the codec firmware on a Texas Instruments OMAP DSP processor as part of a senior capstone design project

Technical Leadership

IEEE Student Branch at UCLA | *Advanced Projects Co-Lead, 2016-2017*

- Led inaugural year of student project guiding teams of students through applied projects in electrical engineering concluding with a quadcopter capstone project
- Prepared and delivered lectures and lab content in a variety of topics including embedded systems design, hardware communications protocols (I^2C, SPI), power electronics, firmware development, and control theory

UCLA Eta Kappa Nu Honor Society | *Workshops Chair, 2015-2016*

- Prepared and delivered a series of tutorials catered to a variety of experience levels teaching students how to use MATLAB software