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# Chengming(Steven) Li

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## Summary

**Portfolio:** <https://stevenlcm16.wixsite.com/chengmingli-steven>

**GitHub:** <https://github.com/stevenli518>

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**Detail-oriented team player seeking an internship, starting from 03/2025, or a full-time role, starting from 06-07/2025, in Electrical Engineering, RF, or IC-related positions to apply and expand technical skills**

- **Fast Learner**  
Managed to use the internet and online references to study Cadence Virtuoso in less than 2 weeks.
- **Hardware Skills**  
Component Selection, PCB design, Oscilloscope, Function Generator, Digital Multimeter, Spectrum Analyzer, Surface Mount Soldering
- **Programming Languages**  
Python, C/C++, C#, Verilog/System Verilog, MATLAB, Tcl, HTML&CSS, SQL
- **Software Skills**  
Altium, LTspice, Cadence Virtuoso, Allegro, ADS, Quartus, ModelSim, Simplicity Studio, VSCode, Visual Studio, MS Office, GitHub, Confluence, Lattice, Slack

**Relevant Coursework:** Communication Circuit Design, Power Amplifier Design, Analog IC Design, VLSI, Universal Verification Methodology, Modern Communication Networks, Embedded System, Computer Organization, RTOS,

**Planning to Take:** CMOS Analog Integrated Circuits & Systems, Power Electronics, PMIC

## Work/Research Experience

### Renesas Electronics America Inc

San Jose, CA

Hardware Engineer Intern

June 2024 - Sep 2024

- Analyzed induction cooktop circuits, focusing on component selection, datasheets, power consumption, and circuit protection
- Simulated induction cooktop(IH) in LTspice, Flux, and Altium and tested LC tank, gate driver, and OVP using Oscilloscope
- Compared 8-layer Allegro Gerber files with Altium designs and summarized differences in electrical and non-electrical layers

### Eridan Communications

Sunnyvale, CA

RF Test Engineer Intern

June 2023 - Aug 2023

- Built a MATLAB and C# DLL-to-Python conversion framework on GitHub for 7+ instruments and PCB testing
- Developed and executed batch scripts to semi-auto the installation process (under 5 minutes) of VScode, Python, and Rclone

### University of Colorado at Boulder (Dr. Taylor Barton's RF Power and Analog Lab)

Boulder, CO

Research Assistant

Aug 2022 - May 2023

- Implemented multi-digital filters using Vivado FPGA (Red Pitaya) to reduce the distortion in the Class-AB power amplifier
- Automated the test with RF Generator, Spectrum Analyzer, and Power Supply to collect the IMD3, Pout, and Current data
- Processed the IMD3 data using Python and characterized the optimal transfer function using the network analyzer

**Project Experience** (for more info and pics: <https://stevenlcm16.wixsite.com/chengmingli-steven/projects>)

### Class B, C, and F Power Amplifier Characterization in ADS

San Diego, CA

Individual

Oct 2024 - Oct 2024

- Developed the schematic of test infrastructure in ADS to characterize the Pout, efficiency, Gt, and  $R_{L,opt}$  using HB, OPTIM
- Simulated the bias point of Class C to achieve  $\pi/2$  conduction angle and Class B to get flat Gain when gm is non-linear

### 9-bit SAR ADC Tape out, PCB Design and Automated Test

San Diego, CA

Member of group 2

April 2024 - Dec 2024

- Laid out comparator, non-overlapping clock generator, and digital logic and optimized CDAC ratios using Cadence Virtuoso
- Used Common centroid and Dummy device to minimize input offset (90u V) and propagation delay(323.6p s) of comparator
- Designed the schematic and layout of the PCB board for testing in Altium, considering the drive and debug configurability
- Built instrument control testing and data collecting code in Python and processed INL, DNL, SNR, and SFDR in MATLAB

### Scalable Electrosurgical Unit for Controlling and Powering the Ligasure Dissection Device

Boulder, CO

Software Lead (Sponsor: Medtronic)

Aug 2022 - May 2023

- Created ADC, PWM, SCI, and CLA modules in C on the TI TMS320F28004C board in response to firmware development
- Reduced the RMS values calculation from 25% to 1.7% errors by using the bitwise mask to optimize the instruction cycles

### Golden Arduino PCB Design

Boulder, CO

Individual

Oct 2022 - Oct 2022

- Developed the schematic and layout for the Atmega328p chip Arduino with ADC, SPI, and UART-USB features in Altium
- Reduced switching and crosstalk noise by placing decoupling capacitors, continuous ground plane, and unshared return paths

## Education

### University of California San Diego

San Diego, CA

**Master of Science in Electrical and Computer Engineering** Cumulative GPA: 3.63/4.00

**Graduation Time:** July 2025

### University of Colorado at Boulder

Boulder, CO

**Bachelor of Science in Electrical & Computer Engineering | Minor in Computer Science**

May 2023

Cumulative GPA: 3.81/4.00 | Honor: Dean's List (Spring 2019 – Spring 2023) | TA experience: Introduction to circuits