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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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- **Fast Learner**

Managed to use the internet and online references to study Cadence Virtuoso in less than 2 weeks.

- **Hardware Skills**

FPGA design, Arduino, 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, Quartus, ModelSim, Simplicity Studio, VSCode, Visual Studio, MS Office, GitHub, Confluence, Lattice, Slack

**Relevant Coursework:** Communication Circuit Design, Analog IC Design, VLSI Digit System Algorithms and Architecture, Modern Communication Networks, Embedded Software Algorithm, Computer Organization, RTOS, Microelectronics,

**Planning to Take:** CMOS Analog Integrated Circuits & Systems, Power Amplifier Design, VLSI Verification(UVM), Power Electronics, PMIC

## Work/Research Experience

### Renesas Electronics America Inc

San Jose, CA

Hardware Engineer Intern

June 2024 - Sep 2024

- Learned induction cooktop circuits in terms of 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 allegro 8 layers Gerber file to Altium and summarized the difference of electrical and non-electrical layers

### Eridan Communications

Sunnyvale, CA

RF Test Engineer Intern

June 2023 - Aug 2023

- Built MATLAB and C#'s DLLs to Python conversion infrastructure on GitHub for 7+ instruments and PCB test development
- 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

### 9-bit SAR ADC Tape out and Test

San Diego, CA

Member of group 2

April 2024 - Dec 2024

- Laid out comparator, capacitive DAC, non-overlapping clock generator and switches, and digital logic using cadence virtuoso
- Used Common centroid and Dummy device to minimize input offset (90u V) and propagation delay(323.6p s) of comparator
- Test will be performed during the Fall of 2024

### 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

### 4 Layer Instrument Droid PCB Design

Boulder, CO

Individual

Nov 2022 - Dec2022

- Developed 4 Layer PCB used to measure the output impedance of any voltage source lower than 12 V in Altium Designer
- Assembled the PCB's components using the Surface Mount Technology and debugged the communication issue of I2C pins

### 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 AD
- 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

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)

Teaching (TA) experience: Introduction to circuits and electronics