Chengming(Steven) Li

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Summary **Portfolio:** https://stevenlcm16.wixsite.com/chengmingli-steven **GitHub:** https://github.com/stevenli518

- **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 the group of 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