

Education Background

Shandong University, Jinan, China

Sept. 2019 - Jun. 2023

- **Major:** Integrated Circuit & Integrated System (Bachelor Degree of Engineering)
- **GPA:** 90.56/100

University of Michigan, Ann Arbor, USA

Aug. 2023 – Now

- **Major:** MS in VLSI
- **GPA:** 4.0

Research Projects

ASIC Design - Large Language Model Accelerator based on Intel 16nm Process

March. 2024 - Now

Position: *Key Member*

- Currently working on System-verilog coding stuff for the accelerator.

ASIC Design – JPEG Compressor based on IBM 130nm Process

Jan. 2024 - Now

Position: *Key Member*

- Designed a JPEG compressor basing on IBM 130nm technology, completed the behavior model using System Verilog.
- Implemented seif-generated Huffman Table to achieve high flexibility.
- Currently working on APR and post-synthesis simulation.

Design of RISC-V Chip with In-memory Computing SRAM

Sep. 2023 – Dec. 2023

Position: *Key Member*

- Implement schematic of a RISC-V based chip including Memory, ALU, Shifter, Program Counter, Controller, etc.
- Designed a 64x128 SRAM based computing-in-memory cell with pre-charge circuits, sense amplifier and computing logic circuits.
- Using different strategies such as pipeline, carry-bypass, multi-fingers and pass gate logic to achieve high performance and power efficiency while keeping a small area consumption.
- Completed layout, DRC, LVS and post-extract simulations.

Design of Transcranial Ultrasound Stimulation System

Feb. 2023 - Jul. 2023

Position: *Key Member*

- Implemented a portable transcranial ultrasound stimulation system based on FPGA and USB3.0 interface consisting of four parts: control and communication module, push-pull amplifier, DC boost converter, and ultrasonic echo receiving module.
- Applied Multisim to design and simulate circuits, and applied Quartus and ModelSim to test the system including FIR filter, USB3.0 interface, PWM wave generator, etc.
- Complete PCB drawing using JLC EDA (a software similar to Altium Designer) and submit it to the factory for production.

Publications

- Cheng E, Ma R, Qi R, et al. Image colorization using generative adversarial network[J]. 2022.DOI:10.1117/12.2641206.