Ruichen Qi (male, D.O.B.: Jun. 23rd, 2001)

Education Background

Shandong University, Jinan, China

Sept. 2019 - Jun. 2023

Email: ruicheng@umich.edu

➤ 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

Research Projects

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 design control and signal-processing 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.

SRAM Design May 2022 - Jul. 2022

Position: Key Member

- Designed a SRAM using NCSU_Analog_Parts library, completed the circuit design of each module, tested its function, and gave the size of each tube.
- Completed the design of SRAM circuit and peripheral circuit, and drew the schematic diagram of circuit test by using Candence.
- > Completed the layout design of circuit and passed DRC and LVS. Extracted parasitic parameters and completed post-test simulations.

Image Colorization using Generative Adversarial Network

Position: Key Member Oct. 2021 - Dec. 2021

- Presented an automatic colorization model for gray scale images based on a generative adversarial network.
- > Coverted images in RGB color space to YUV color space and extracted the UV channel of the picture to form the training set for training to achieve smaller amount of training and higher definition of generated images.
- Multiple cascaded residual blocks are used to construct a deep network to extract the content features of the image.
- Provided various visualization results to validate the effectiveness of our method.

Honors & Awards

The Third-class Academic Scholarship in academic year 2021-2022, Shandong University

Oct.2022

The Second-class Academic Scholarship in academic year 2020-2021, Shandong University

Oct. 2021

Gold Prize, The 7th Shandong University "Internet +" Innovation and Entrepreneurship Competition for College Students

Aug.2021

The Second Prize, The 14th International Contest of innovAtioN (China)

Dec. 2020

The Third-class Academic Scholarship in academic year 2019-2020, Shandong University

Oct. 2020

Bronze Award, The 6th Shandong University "Internet +" Innovation and Entrepreneurship Competition for College Students

Sept.2020