

WENTAO ZHANG

1853 Lake Lila Ln, Ann Arbor, MI, 48105
(+1)7343539808 ◊ zwtao@umich.edu

EDUCATION

University of Michigan, Michigan
M.S in Computer Science

Expected Dec 2021
GPA:3.554/4.00

University of Michigan, Michigan
B.S.E in Computer Engineering

May 2020
GPA:3.854/4.00

Shanghai Jiao Tong University, Shanghai
B.S.E in Electrical and Computer Engineering

August 2020
GPA:3.4/4.00

SKILLS

Language: System Verilog, C, C++, Python, Cuda, Arduino, Matlab, Labview

PROJECT EXPERIENCE

Out-of-Order P6 Schematic Processor
EECS470-Computer Architecture Final Project, Group Project, Leader

Jan. 2020 - Apr. 2020
Ann Arbor, MI

- Designed and implemented a 2-way out-of-order processor in P6 schematic with System Verilog.

Customized Accelerator for Attention Based CNN
EECS498-Accelerator for AI and Health, Group Project, Member

Sep. 2019 - Dec. 2019
Ann Arbor, MI

- Designed an accelerator for the Attention Based CNN convolution layer in System Verilog. We use the look-up table for the multiplication result and use systolic array to speed up the addition procedure in CNN layer to accelerate the CNN computation.

Operating System Projects
EECS482- Introduction to Operating System, Leader

Sep. 2020 - Dec. 2020
Ann Arbor, MI

- Implemented a multi-threaded disk scheduler, pthread library, a pager and a network file server in C++.

Advanced Compiler Projects
EECS583- Advanced Compiler

Sep. 2020 - Dec. 2020
Ann Arbor, MI

- Extended the LLVM's LICM to perform speculative hoisting of almost invariant instructions.
- Implemented 3 cache bypass algorithms and simulated them on dynamorio cache simulator.

GPU optimization for MXNet Library
EECS498- Applied GPU Programming Final Project

Sep. 2019 - Dec. 2019
Ann Arbor, MI

- Used webGPU to optimize the calculation of the forward pass convolution layer in MXNet Library (written in CUDA).
- Utilized shared memory, kernel fusion for matrix-multiplication to get 51X performance improvement in convolution.

Improvement of Saliency Optimization from Robust Background Detection
EECS442- Computer Vision Final Project

May. 2020
Ann Arbor, MI

- Implemented the Saliency Optimization from Robust Background Detection and improved it by pre-processing the image using edge detection.

RESEARCH EXPERIENCE

VLSI Design and Automation Lab
Research Intern, Advised by Prof David Blaauw

May. 2019 - Feb. 2020
Ann Arbor, MI

- Programmed the Arm cortex-M4 processor to communicate other layers in micro sensor stacks through Mbus protocol.
- Used Labview to develop a control system to collect the maximum load current and power efficiency information of the PMU under 600 different settings automatically.

CADRE Lab
Research Assistant

Nov. 2018 - May. 2019
Ann Arbor, MI

- Developed circuit features extraction tool to collect circuits and pin information from 2k circuit data sheets with an accuracy of 90%.
- Researched in using Bag of Words and Multinomial Bayes Classifier to classify the circuit data sheets.

Yoon's Lab
Research Assistant

Jan. 2019 - May. 2019
Ann Arbor, MI

- Programmed the new developed hardware board supported by Opal Kelly FPGA to generate 12 independent output current in user defined waveform in 12 different ports.
- Participated in GUI design of the control system based on the Opal Kelly FPGA.

LEADERSHIP EXPERIENCE

Multidisciplinary Design Program: Sensor Network Laboratory

Jan. 2019 - Now

The Multidisciplinary Design program is aimed to cultivating the sense of cooperation, innovation and communication skills of students and let them prepared for the industry.

Member

Ann Arbor, MI

- Communicate with the team members every two weeks to check the project progress and report the result to team leader.
- Modified the Maple seed V3R1 PCB board memory communication protocol from SPI to I2C to reduce the pins it uses for data communication.