You Wu

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RESEARCH INTERESTS

Computer Architecture, Computer-Aided-Design, Hardware Security.

EDUCATION

Ph. D. in Computer Engineering at **University of Southern California** Aug. 2017 - present
Ming Hsieh Department of Electrical Engineering Supervisor: Xuehai Qian

B. E. in Microelectronic Science and Engineering at **Tsinghua University**, China Aug. 2013 - Jul. 2017
Department of Microelectronics and Nanoelectronics Overall GPA: 89.2/100 Rank: 5/26
Thesis: The VLSI implementation of Binarized Neural Networks

RESEARCH EXPERIENCE

Defense and Analysis for Side-Channel Attack | University of Southern California Sep. 2017 - present
Advisor: Prof. Xuehai Qian, Ming Hsieh Dept. of Electrical Engineering

- Design specific algorithm and hardware to solve cache-based side-channel attack security problem

Design of a Specialization BNN Accelerator | Tsinghua University | Research Assistant Sep. 2016 - Jul. 2017
Advisor: Prof. Shouyi Yin, Institute of Microelectronics

- Design an architecture which can efficiently execute the binarized neural computation.
- Investigate its application in different neural networks to accelerate computation.

Implementation of BNN on different platforms | Cornell University | Research Assistant Jun. 2016 - Sep. 2016
Advisor: Prof. Zhiru Zhang, Dept. of Electrical and Computer Engineering

- Implemented both the hardcore and softcore of the BNN network on an FPGA hardware.
- Coded for the interface to connect the Rocket chip softcore with the BNN accelerator.
- Used High Level Synthesis tool Stratus to utilize limited resources to implement the project.

Vehicular behavior algorithm analysis | Tsinghua University | Research Assistant Sep. 2015 - Jun. 2016
Advisor: Prof. Shouyi Yin, Institute of Microelectronics

- Used deep learning algorithms to analyze human behavior while driving a vehicle.
- Used the deep learning platform "tensorflow" to solve traditional problems, e.g. MNIST classification.
- Investigated the mechanism behind deep learning algorithms.

Pilot Assignment Algorithms for Wireless Networks | Tsinghua University | SRT Project Mar. 2015 - May 2016
Advisor: Prof. Wei Feng, Dept. of Electronic Engineering

- Investigated pilot assignment algorithms to achieve better performance in cellular MIMO systems.
- Performed simulation in cellular Gaussian networks to verify the theoretical results.

TECHNICAL REPORT

T. Wei, **Y. Wu**, Y. Yang, W. Feng, N. Ge, J. Lu, "Joint User Scheduling and Power Allocation in Massive MIMO Zero-Forcing Systems with Time-Shifted Pilots," May, 2015.

SKILLS

Software Programming: C/C++, Matlab, Python, Git.
Hardware Programming: Verilog HDL, Stratus and Vivado HLS.