

# JINGYAO ZHANG

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## AFFILIATION

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State Key Laboratory of Integrated Service Networks (ISN)  
School of Telecommunications Engineering, Xidian University

## EDUCATION

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**Xidian University**, Xi'an, Shaanxi, China September 2018 - Present  
M.S. in Electronic & Telecommunications Engineering (GPA: 3.72)

**Xidian University**, Xi'an, Shaanxi, China September 2014 - July 2018  
B.S. in Telecommunications Engineering (GPA: 3.7)  
Selected Student in Teaching Reformation Class (Top 5% of 800+)  
Thesis: "Optical Interconnect Architecture for Emerging Memories (**outstanding thesis**)"  
Advisor: Huaxi Gu

## RESEARCH INTERESTS

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- Hardware-software codesign for efficient sparse matrix multiplication.
- Design automation of optimal architecture for neural networks using FPGA.
- Interconnects for distributed computing systems, such as acceleration system for neural networks training.

## PUBLICATIONS

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- **Jingyao Zhang**, Huaxi Gu, Grace Li Zhang, Bing Li, Ulf Schlichtmann, "**Hardware-Software Codesign of Weight Reshaping and Systolic Array Multiplexing for Efficient CNNs**," 2021 Design, Automation & Test in Europe Conference & Exhibition (DATE), February 2021 (**acceptance rate: 24%**).
- **Jingyao Zhang** and Huaxi Gu, "LOOP: A Low-Loss Compact Plasmonic Router for ONoC," 2019 18th International Conference on Optical Communications and Networks (ICOON), Huangshan, China, 2019, pp. 1-3, doi: 10.1109/ICOON.2019.8933968.

## P.R.C. PATENT

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- **Jingyao Zhang**, Huaxi Gu, Zhangming Zhu, Yintang Yang, Hui Li, "An Optical Switch Based on Photonic-Plasmonic Switching Elements," 2018, No.201910618044.3 (**authorized**).
- Huaxi Gu, **Jingyao Zhang**, Yintang Yang, Kun Wang, Kang Wang, Lei Li, "A Waveguide Routing Method of Optical Switching Structure for Multicast/Broadcast," 2019, No.201911027714.0 (under review).

## HONOURS AND AWARDS

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- First-class Scholarship, Xidian University (Top 14% of 560+) 2018, 2019
- Outstanding Student Award, Xidian University 2018, 2019

- Outstanding Cadre of School of Telecommunications Engineering, Xidian University 2015, 2016
- Third-class Scholarship, Xidian University 2015, 2016

## EXPERIENCE

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### **Xidian University**

September 2018 - Present

*Researcher*

*Xi'an, China*

- Develop Hardware-software codesign framework of weight reshaping and systolic array multiplexing for efficient CNNs.
- Implement inferences of CNNs based on systolic arrays using FPGA.
- Cooperate with two junior students implementing inter-board memory access in parallel using Aurora protocol on three FPGA boards.
- Implement inter-board communication using Arm core, Ethernet protocol and DMA between two FPGA boards.
- Develop a waveguide routing method of optical switching structure for multicast/broadcast.
- Propose a low-loss compact plasmonic router for ONoC.

### **Xilinx Summer Camp**

July 2020 - August 2020

*Student Camper*

*Online*

- Develop a distributed platform for acceleration with a teammate ([Github](#)).

### **Microsoft Innovation Center**

July 2017 - August 2017

*Intern*

*Xi'an, China*

- Research on different generations of cellular networks.

## REFEREES

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### **My supervisors:**

Prof. Huaxi Gu

State Key Laboratory of Integrated Service Networks, Xidian University

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