

# Wei Zhao

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## EDUCATION

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**Huazhong University of Science of Technology**

*B.E. in Electrical Science and Technology*

School of Optical and Electrical Information (OEI)

**Wuhan, Hubei province**

*Sep 2014 – Jun 2018*

**Huazhong University of Science of Technology**

*Ph.D. in Computer Science*

Wuhan National Laboratory for Optoelectronics (WNLO)

**Wuhan, Hubei province**

*Sep 2018 – Jun 2023 (Expected)*

○ **Research Areas in my Ph.D. career:**

Non-volatile Memory (NVM), Approximate Storage, Memory and Storage System.

## PUBLICATIONS

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○ **Conference Papers**

1. Denghui Wu, Biyong Liu, **Wei Zhao**, Wei Tong. "ZNSKV: Reducing Data Migration in LSMT-Based KV Stores on ZNS SSDs" is accepted by 40th IEEE International Conference on Computer Design (**ICCD'22, CCF B**).
2. **Wei Zhao**, Dan Feng, Yu Hua, Wei Tong, Jingning Liu, Jie Xu, Chunyan Li, Gaoxiang Xu and Yiran Chen. "*MORE<sup>2</sup>: Morphable Encryption and Encoding for Secure NVM*", in Proceedings of 40-th International Conference On Computer-Aided Design (**ICCAD'21, CCF B**).
3. **Wei Zhao**, Wei Tong, Dan Feng, Jingning Liu, Zhangyu Chen, Jie Xu, Bing Wu, Chengning Wang and Bo Liu. "*Improving the energy efficiency of STT-MRAM based approximate cache*", in Proceedings of 25-th Design, Automation and Test in Europe Conference (**DATE'21, CCF B**).
4. **Wei Zhao**, Wei Tong, Dan Feng, Jingning Liu, Jie Xu, Xueliang Wei, Bing Wu, Chengning Wang, Weilin Zhu, Bo Liu. "*OSwrite: Improving the lifetime of MLC STT-RAM with One-Step write*", in proceedings of 36-th International Conference on Massive Storage Systems and Technology (**MSST'20, CCF B**).
5. Bing Wu, Dan Feng, Wei Tong, Jingning Liu, Chengning Wang, **Wei Zhao**, Mengye Peng. "*ReRAM Crossbar-Based Analog Computing Architecture for Naive Bayesian Engine*", in Proceedings of International Conference of Computer Design (**ICCD'19, CCF B**).

○ **Journal Papers**

1. **Wei Zhao**, Jie Xu, Xueliang Wei, Bing Wu, Chengning Wang, Weilin Zhu, Wei Tong, Dan Feng, Jingning Liu. "*A Low Latency and High Endurance MLC STT-MRAM based Cache System*" in Transactions on Computer-Aided Design of Integrated Circuits and Systems (**TCAD, CCF A**), 2022.
2. Chengning Wang, Dan Feng, Wei Tong, Yu Hua, Jingning Liu, Bing Wu, **Wei Zhao**, Linghao Song, Yang Zhang, Jie Xu, Xueliang Wei, Yiran Chen. "*Improving Multilevel Writes on Vertical 3D Cross-Point Resistive Memory*", accepted by Transactions on Computer-Aided Design of Integrated Circuits and Systems (**TCAD, CCF A**), 2020.
3. Chengning Wang, Dan Feng, Wei Tong, Jingning Liu, Bing Wu, **Wei Zhao**, Yang Zhang, Yiran Chen. "*Improving Write Performance on Cross-Point RRAM Arrays by Leveraging Multidimensional Non-Uniformity of Cell Effective Voltage*", accepted by Transactions on Computers (**TC, CCF A**), 2020.

4. Chengning Wang, Dan Feng, Wei Tong, Jingning Liu, Bing Wu, **Wei Zhao**, Yang Zhang. "*Design and Analysis of Address-Adaptive Read Reference Settings for Multilevel Cell Cross-Point Memory Arrays*", accepted by IEEE Transactions on Electron Devices (**TED**), 2019.
5. Bing Wu, Dan Feng, Wei Tong, Jingning Liu, Chengning Wang, **Wei Zhao**, Yang Zhang. "*A low power reconfigurable memory architecture for complementary resistive switches*", accepted by IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems (**TCAD**, **CCF A**), 2019.
6. Chengning Wang, Dan Feng, Wei Tong, Jingning Liu, Zheng Li, Jiayi Chang, Yang Zhang, Bing Wu, Jie Xu, **Wei Zhao**, Yilin Li, Ruoxi Ren, "*Cross-point resistive memory: Nonideal properties and solutions*", ACM Transactions on Design Automation of Electronic Systems (**TODAES**, **CCF B**), 2019.

## TALKS

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- "MORE2: Morphable Encryption and Encoding for Secure NVM", oral presentation in ICCAD 2021.
- "Improving the energy efficiency of STT-MRAM based approximate cache", oral presentation in DATE 2021.
- "OSwrite: Improving the lifetime of MLC STT-RAM with One-Step write", oral presentation in MSST 2020.

## SKILLS

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- **Programming Language** – C, C++, Python, Shell, CUDA
- **Tools** – Git, L<sup>A</sup>T<sub>E</sub>X
- **Simulators** – Gem5, NVmain, GPGPUsim. NVsim.
- **Language** – Good English Writing, Reading.

## AWARDS

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- Outstanding undergraduate graduate of HUST in 2018.
- Excellent Postgraduate Student in HUST, 2019.
- ZhiXing Excellent Postgraduate Scholarship (1000 CNY), 2020.
- WNLO Excellent Postgraduate Scholarship (10000 CNY), 2021