

CONTACT INFORMATION	College of Computer, National University of Defense Technology NO.109 Deya Road, Changsha, Hunan, China 410073	<i>Mobile:</i> +86-13786170600 <i>E-mail:</i> cxh.nudt@gmail.com <i>Website:</i> https://chenxuhao.github.io
RESEARCH INTEREST	Computer architecture and computer systems, with an emphasis on massively parallel accelerators. Recent work focuses on efficient processing of emerging irregular algorithms (big-data analytics and machine learning).	
CURRENT POSITION	Assistant Research Scientist at College of Computer National University of Defense Technology (NUDT) Research Area: Computer Architecture	Jan. 2015 - present
EDUCATION	Ph.D. in Computer Science National University of Defense Technology Advisor: Professor Zhiying Wang Thesis Title: Cache Management for Manycore Accelerators	Dec. 2014
	Visiting Student in Electrical and Computer Engineering University of Illinois at Urbana-Champaign Advisor: Professor Wen-Mei Hwu Research Project: Architectural Support for GPU Computing	2012 - 2014
	B.S. in Computer Science National University of Defense Technology Rank: 1/144	Jun. 2009
HONORS AND AWARDS	<ul style="list-style-type: none"> • The CCF Distinguished PhD Dissertation Award Nominee, 2015 • The Ci Yun-Gui Computer Technology Scholarship for Graduates, NUDT, 2010 • Mathematical Contest In Modeling (MCM), Meritorious Winner, COMAP, USA, 2009 • Distinguished Graduate of NUDT, NUDT, 2009 • Outstanding Student Award, NUDT, 2009 • The Ci Yun-Gui Computer Technology Scholarship for Undergraduates, NUDT, 2008 • China Undergraduate Mathematical Contest in Modeling, First-rank Prize, 2007 • The YinHe First-rank Scholarship, NUDT, 2007 	
SELECTED RESEARCH PROJECTS	Memory Hierarchy Design and Management for Energy-efficient Heterogeneous Processors 2016.01~2018.12 The National Natural Science Foundation of China Grant No. 61502514, Principal Investigator Programming and Runtime Environment for Novel Multicore and Manycore Processors 2012.01~2015.12 The National High-Tech Research & Development Program of China (863 Program) Grant No. 2012AA010905 Fundamental Theory and Method Study on Computer System Virtualization 2007.07~2011.06 The National Basic Research Program of China (973 Project) Grant No.2007CB310901	
SELECTED PUBLICATIONS	[1] Xuhao Chen , <i>Escort: Efficient Sparse Convolutional Neural Networks on GPUs</i> , CoRR, https://arxiv.org/abs/1802.10280	

- [2] Zhen Xu, **Xuhao Chen**, Jie Shen, Yang Zhang, Cheng Chen, Canqun Yang, GARDE-NIA: A Domain-specific Benchmark Suite for Next-generation Accelerators, CoRR, <https://arxiv.org/abs/1708.04567>
- [3] **Xuhao Chen**, Cheng Chen, Jie Shen, Jianbin Fang, Tao Tang, Canqun Yang, Zhiying Wang, *Orchestrating Parallel Detection of Strongly Connected Components on GPUs*, Parallel Computing, to appear
- [4] Pingfan Li, **Xuhao Chen**, Jie Shen, Jianbin Fang, Tao Tang, Canqun Yang, *High Performance Detection of Strongly Connected Components in Sparse Graphs on GPUs*, In the Proceedings of the International Workshop on Programming Models and Applications for Multicores and Manycores, in conjunction with PPOPP-22, 2017
- [5] **Xuhao Chen**, Pingfan Li, Jianbin Fang, Tao Tang, Zhiying Wang, Canqun Yang, *Efficient and High-quality Sparse Graph Coloring on the GPU*, Concurrency and Computation: Practice and Experience, Volume 29, Issue 10, 2017
- [6] Jianbin Fang, Peng Zhang, Zhaokui Li, Tao Tang, **Xuhao Chen**, Cheng Chen, Canqun Yang, *Evaluating Multiple Streams on Heterogeneous Platforms*, Parallel Processing Letters, Volume 26, Issue 4, 2016
- [7] Hang Zhang, **Xuhao Chen**, Nong Xiao, Lei Wang, Fang Liu, Wei Chen, Zhiguang Chen, *Shielding STT-RAM Based Register files on GPUs Against Read Disturbance*, ACM Journal on Emerging Technologies in Computing Systems, Volume 10, Issue 5, 2016
- [8] Hang Zhang, **Xuhao Chen**, Nong Xiao, Fang Liu, *Optimizing STT-RAM Based Register File Energy Consumption on GPGPU with Delta Compression*, In Proceeding of the 53rd Design Automation Conference (**DAC-53**), 2016
- [9] Pingfan Li, **Xuhao Chen**, Zhe Quan, Jianbin Fang, Huayou Su, Tao Tang, Canqun Yang, *High Performance Parallel Graph Coloring on GPGPUs*, In Proceeding of the 30th IEEE International Parallel & Distributed Processing Symposium Workshop (IPDPSW), 2016
- [10] Hang Zhang, **Xuhao Chen**, Nong Xiao, Fang Liu, *Red-Shield: Shielding Read Disturbance for STT-RAM Based Register files on GPUs*, In Proceeding of the 26th Great Lakes Symposium on VLSI (GLSVLSI-26), 2016
- [11] **Xuhao Chen**, Li-Wen Chang, Christopher I. Rodrigues, Jie Lv, Zhiying Wang, Wen-Mei W. Hwu. *Adaptive Cache Management for Energy-efficient GPU Computing*, In Proceeding of the 47th Annual IEEE/ACM International Symposium on Microarchitecture (**MICRO-47**), 2014
- [12] **Xuhao Chen**, Shengzhao Wu, Li-Wen Chang, Wei-Sheng Huang, Carl Pearson, Zhiying Wang, Wen-Mei W. Hwu. *Adaptive Cache Bypass and Insertion for Many-core Accelerators*, In Proceeding of the Second ACM International Workshop on Many-core embedded systems (MES'14) in conjunction with ISCA-41, 2014
- [13] **Xuhao Chen**, Li Shen, Zhiying Wang, Zhong Zheng, Wei Chen, *Binary Compatibility for Embedded Systems using Greedy Subgraph Mapping*, SCIENCE CHINA Information Sciences, Volume 57, Issue 7, pp 1-16, 2014
- [14] **Xuhao Chen**, Wei Chen, Jiawen Li, Zhong Zheng, Li Shen, Zhiying Wang, *Characterizing Fine-Grain Parallelism on Modern Multicore Platform*, In Proceeding of the 17th International Conference on Parallel and Distributed Systems (ICPADS-17), 2011

PROFESSIONAL
SKILLS

- Programming Languages: C, C++, Python, OpenMP, CUDA, OpenCL and MPI
- Architectural simulators and tools: GPGPU-Sim and gem5
- EDA tools and HDLs: Xilinx ISE, ModelSim, Verilog
- Compilation tools: GCC, LLVM and NVCC

- SERVICE
- Invited reviewer for Microprocessors and Microsystems: Embedded Hardware Design
 - Invited reviewer for Journal of Supercomputing
- LANGUAGES
- English: IELTS score is 7 (Reading 8, Writing 6.5, Listening 6.5, Speaking 7.5)
 - Chinese: Native language