XULONG TANG

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EDUCATION

Pennsylvania State University *2014 - present*
Ph.D. Candidate in Computer Science and Engineering
Advisor: Prof. Mahmut Taylan Kandemir
Overall GPA: 3.88/4.0

College of William and Mary *2014*
Ph.D. Candidate in Computer Science
Advisor: Prof. Xipeng Shen
Overall GPA: 4.0/4.0

University of Science and Technology of China *2010 - 2013*
M.S. in Computer Science and Technology
Advisor: Prof. Hong An
Overall GPA: 3.6/4.0

Harbin Institute of Technology *2006 - 2010*
B.S. in Computer Science and Technology
Overall GPA: 3.4/4.0

RESEARCH EXPERIENCE

Pennsylvania State University 2014 - present
Microsystems Design Lab (MDL)

· Dynamic parallelism optimization for irregular applications on GPGPUs.
· Compiler-assisted data locality optimization on manycore platforms.

SAMSUNG Research America (SRA) Summer 2015
Mentor: Liangjun Zhang *Sunnyvale, CA*

· Modeling the memory hierarchy of high-performance, low-power mobile GPUs.

College of William and Mary 2014
Compilers and Adaptive Programming Systems Lab

· Understanding CPU-GPU co-run degradations on integrated heterogeneous processors.

ICT of Chinese Academy of Science, Beijing 2011 - 2013
Advisor: Prof. Dongrui Fan *China*

· Built a two-layer video codec benchmark suite.
· Modified x264 codec into a fine-grain pipelined version to achieve task-level parallelism.

University of Science and Technology of China 2010 - 2011
Advisor: Prof. Hong An *China*

· Characterized program phases using Rodinia benchmark suite.

PUBLICATIONS

[C1]. **Xulong Tang**, Orhan Kislal, Mahmut Kandemir, Mustafa Karakoy "Data Movement Aware Computation Partitioning", *In proceedings of The 50th Annual IEEE/ACM International Symposium on Microarchitecture.*
(MICRO 2017)

[C2]. Akbar Sharifi, Wei Ding, Diana Guttman, Hui Zhao, **Xulong Tang**, Mahmut Kandemir, Chita Das "DEMM: a Dynamic Energy-saving mechanism for Multicore", *In proceedings of The 25th IEEE International Symposium on the Modeling, Analysis, and Simulation of Computer and Telecommunication Systems.*
(MASCOTS 2017)

[C3]. Orhan Kislal, Jagadish Kotra, **Xulong Tang**, Mahmut Taylan Kandemir, Myoungsoo Jung "POSTER: Location-Aware Computation Mapping for Manycore Processors", *In proceedings of The 26th International Conference on Parallel Architectures and Compilation Techniques*
(PACT 2017)

[C4]. **Xulong Tang** , Ashutosh Pattnaik, Huaipan Jiang, Onur Kayiran, Adwait Jog, Sreepathi Pai, Mohamed Ibrahim, Mahmut Kandemir, Chita Das "Controlled Kernel Launch for Dynamic Parallelism in GPUs", *In Proceedings of 23th International Symposium on High-Performance Computer Architecture.*
(HPCA 2017)

[C5]. **Xulong Tang** , Mahmut Kandemir, Praveen Yedlapalli, Jagadish Kotra "Improving Bank-Level Parallelism for Irregular Applications", *In Proceedings of 49th Annual IEEE/ACM International Symposium on Microarchitecture.*
(MICRO 2016) Best Paper Nomination.

[C6]. Ashutosh Pattnaik, **Xulong Tang**, Adwait Jog, Onur Kayiran, Asit K. Mishra, Mahmut T. Kandemir, Onur Mutlu, Chita R. Das "Scheduling Techniques for GPU Architectures with Processing-In-Memory Capabilities", *In Proceedings of 25th International Conference on Parallel Architectures and Compilation Techniques.*
(PACT 2016)

[C7]. Onur Kayiran, Adwait Jog, Ashutosh Pattnaik, Rachata Ausavarungnirun, **Xulong Tang**, Mahmut T. Kandemir, Gabriel H. Loh, Onur Mutlu, Chita R. Das "μC-States: Fine-grained GPU Datapath Power Management", *In Proceedings of 25th International Conference on Parallel Architectures and Compilation Techniques.*
(PACT 2016)

[C8]. Wei Ding, **Xulong Tang**, Mahmut Taylan Kandemir, Yuanrui Zhang, Emre Kultursay "Optimizing Off-Chip Accesses in Manycores", *In Proceedings of 36th annual ACM SIGPLAN conference on Programming Language Design and Implementation.*
(PLDI 2015)

[C9]. Mahmut Taylan Kandemir, Hui Zhao, **Xulong Tang**, Mustafa Karaky, "Memory Row Reuse Distance and its Role in Optimizing Application Performance", *In Proceedings of ACM International Conference on Measurement and Modeling of Computer Systems.*
(SIGMETRICS 2015)

[C10]. **Xulong Tang**, Hong An, Gongjin Sun, Dongrui Fan, "A Video Coding Benchmark Suite for Evaluation of Processor Capability", *In Proceedings of 14th IEEE/ACIS International Conference on Software Engineering, Artificial Intelligence, Networking and Parallel/Distributed Computing.*
(SNPD 2013)

[C11]. Gu Liu, Hong An, Xiaoqiang Li, Wei Zhou, Xuechao Wei, **Xulong Tang**, "FlexBFS: A Parallelism-aware Implementation of Breadth-First Search on GPU", *Accepted as a poster by 17th ACM SIGPLAN Symposium on Principles and Practice of Parallel Programming.*
(PPoPP 2012)

TECHNICAL STRENGTHS

Programming	C/C++, CUDA, OpenCL, Python, OpenMP, MPI, Matlab
Tools	GPGPU-sim, Multi2Sim, Simplescalar, Valgrind

REFERENCES

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