Dong Chen

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HomePage: dongchen-coder.github.io

My current research focuses on static and dynamic program analysis on locality for both sequential and parallel programs. I have broad interests in system software, parallel computing, memory management, and program synthesis. ALL of my research is public and open-sourced.

EDUCATION

Ph.D in Computer Science, *University of Rochester*	2014.09-2019.05
BS/MS in Computer Science, *National University of Defense Technology*	2007.09-2013.12

EXPERIENCE

Assistant Professor	**2019.06-2021.05**
National University of Defense Technology	*Changsha, China*
Intern	**2018.06-2018.08**
Qualcomm, Graphics Compiler Team	*CA, USA*
Intern	**2016.06-2016.08**
Qualcomm, Graphics Compiler Team	*CA, USA*
Intern	**2015.06-2015.08**
FutureWei Technologies, Huawei US Research Lab	*CA, USA*

SKILLS

Tools and Languages	C++, Python, LLVM, Parallel programming (CUDA, OpenMP, MPI, etc)
Communication	Chinese (native), English (fluent)

SELECTED PUBLICATIONS

[Draft21] *Dong Chen*. "Locality Analysis by Synthesizing Symbolic Reuse Intervals".

[TACO21] Chen Ding, *Dong Chen*, Fangzhou Liu, Benjamin Reber, Wesley Smith. "Program Optimization Theory and Potential for a Programmable Cache".

[ISMM21] *Dong Chen*, Chen Ding, Fangzhou Liu, Benjamin Reber, Wesley Smith, and Pengcheng Li. "Uniform Lease vs LRU Cache: Analysis and Evaluation". The 2021 ACM SIGPLAN International Symposium on Memory Management.

[MEMSYS20] Ian Prechtl, Ben Reber, Chen Ding, Dorin Patru, *Dong Chen*. "CLAM: Compiler Lease of Cache Memory". The 6th International Symposium on Memory Systems.

[PPoPP20p] Fangzhou Liu, *Dong Chen*, Wesley Smith, and Chen Ding. "PLUM: static parallel program locality analysis under uniform multiplexing". In Proceedings of the 25th ACM SIGPLAN Symposium on Principles and Practice of Parallel Programming (Poster).

[LCPC19] *Dong Chen*, Chen Ding, Dorin Patru. "CLAM: Compiler Leasing of Accelerator Memory". 32nd Workshop on Languages and Compilers for Parallel Computing.

[MEMSYS19] *Dong Chen*, Fangzhou Liu, Mingyang Jiao, Chen Ding, Sreepathi Pai. "Statistical Caching for Near Memory Management". 5th International Symposium on Memory Systems.

[PLDI18] *Dong Chen*, Fangzhou Liu, Chen Ding, Sreepathi Pai. "Locality analysis through static parallel sampling". 39th ACM SIGPLAN Conference on Programming Language Design and Implementation. (*Artifact evaluated*).

[LCPC18] *Dong Chen*, Chunling Hu, Chucheow Lim, Sreepathi Pai, Chen Ding. "POSTER: Static Sampling for GPU Code". 31th International Workshop on Languages and Compilers for Parallel Computing.

[LCPC17] *Dong Chen*, Fangzhou Liu, Chen Ding, Chucheow Lim. "POSTER: Static Reuse Time Analysis Using Dependence Distance". 30th International Workshop on Languages and Compilers for Parallel Computing.

[TACO17] Pengcheng Li, Xiaoyu Hu, *Dong Chen*, Jacob Brock, Hao Luo, Eddy Z Zhang, Chen Ding. "LD: Low-Overhead GPU Race Detection Without Access Monitoring". ACM Transactions on Architecture and Code Optimization.

[MEMSYS16] *Dong Chen*, Chencheng Ye, Chen Ding. "Write Locality and Optimization for Persistent Memory". 2nd International Symposium on Memory Systems

[EuroPar14] Dafei Huang, Mei Wen, Changqing Xun, *Dong Chen*, Xing Cai, Yuran Qiao, Nan Wu, Chunyuan Zhang. "Automated Transformation of GPU-Specific OpenCL Kernels Targeting Performance Portability on Multi-Core/Many-Core CPUs". 20th International European Conference on Parallel and Distributed Computing.

[HPCC13] *Dong Chen*, Changqing Xun, Dafei Huang, Mei Wen, Chunyuan Zhang. "Automatic mapping single-device OpenCL program to heterogeneous multi-device platform". 15th International Conference on High Performance Computing and Communications.

PROFESSIONAL ACTIVITIES

Professional Services: Reviewer for JCST. Sub-reviewer for MEMSYS 2019, ICS 2019, LCPC 2018, ICS 2017, MEMSYS 2017, NPC 2017.

Teaching Assistant: Data Structure, Programming Language Design and Implementation, Software Analysis and Improvement (Advanced Compiler).