

Zhen Fang

Ph.D, University of Utah
MS, BS, Fudan University, China

RESEARCH AREAS

Computer Architecture, Memory Systems, Performance Analysis, System-on-Chip Architectures and Applications

WORK EXPERIENCE

Intel Corp. , Hillsboro, OR <i>System-on-chip Architectures and Applications</i> <i>x86 Platform Architecture Modeling and Design</i>	System Architect, 05/2006 – present
Silicon Graphics Inc. , Chippewa Falls, WI	Summer Intern, 05/2005 – 08/2005
University of Utah , Salt Lake City, UT <i>Synchronization and Bulk Data Processing in cc-NUMA Machines</i> <i>The Impulse Adaptive Memory Controller Project</i>	Research Assistant, 08/1998 – 02/2006
Fudan University , Shanghai, China <i>Theoretical Research on ATM Networks</i>	Research Assistant, 09/1995 – 07/1998

REFEREED PUBLICATIONS

13. Using Checksum to Reduce Power Consumption of the Display System for Low-Motion Content
Kyungtae Han, [Zhen Fang](#), Paul Diefenbaugh, Richard Forand, Ravi Iyer and Donald Newell
International Conference on Computer Design (ICCD), 2009
12. Accelerating Mobile Augmented Reality on a Handheld Platform
Seung Eun Lee, Steven Zhang, [Zhen Fang](#), Sadagopan Srinivasan, Ravi Iyer and Donald Newell
International Conference on Computer Design (ICCD), 2009
11. Performance Characterization and Optimization of Mobile Augmented Reality on Handheld Platforms
Sadagopan Srinivasan, [Zhen Fang](#), Ravi Iyer, Steven Zhang, Mike Espig, Donald Newell,
Daniel Cermak, Yi Wu, Igor Kozintsev and Horst Haussecker
IEEE International Symposium on Workload Characterization (IISWC), 2009
10. Active Memory Operations
[Zhen Fang](#), Lixin Zhang, John Carter, Ali Ibrahim and Mike Parker
International Conference on Supercomputing (ICS), 2007
9. Fast Synchronization on Shared-Memory Multiprocessors: An Architectural Approach
[Zhen Fang](#), Lixin Zhang, John Carter, Liqun Cheng and Mike Parker
Journal of Parallel and Distributed Computing (JPDC), vol. 65 (2005). pp.1158-1170
8. Highly Efficient Synchronization Based on Active Memory Operations
Lixin Zhang, [Zhen Fang](#) and John Carter
International Parallel and Distributed Processing Symposium (IPDPS), 2004
7. A Low-Power Accelerator for the SPHINX3 Speech Recognition System
Binu Mathew, Al Davis and [Zhen Fang](#)
International Conf. on Compilers, Architecture and Synthesis for Embedded Systems (CASES), 2003
6. An MPEG-4 Performance Study for non-SIMD, General Purpose Architectures
Sally McKee, [Zhen Fang](#) and Mateo Valero
International Symposium on Performance Analysis of Systems and Software (ISPASS), 2003
5. MPEG4: Fallacies and Paradoxes
[Zhen Fang](#) and Sally McKee
IEEE 5th Annual Workshop on Workload Characterization (WWC), 2002

4. The Impulse Memory Controller

Lixin Zhang, Zhen Fang, Mike Parker, John Carter, et al.
IEEE Transactions on Computers, Vol.50, No.11. November 2001

3. Reevaluating Dynamic Superpage Promotion with Hardware Support

Zhen Fang, Lixin Zhang, John Carter, Wilson Hsieh and Sally McKee
7th International Symposium on High Performance Computer Architecture (HPCA), 2001

2. Online Superpage Promotion Revisited

Zhen Fang, Lixin Zhang, John Carter, Sally McKee and Wilson Hsieh
International Conf. on Measurement and Modeling of Computer Systems (SIGMETRICS), extended abstract, 2000

1. Prosperity of Non State Sectors and Recession of SOEs in China: A Proper View of Them

Jun Wang and Zhen Fang
The 28th St. Gallen Symposium, Switzerland, 1998

PATENTS

1. Node Synchronization for Multiprocessor Computer Systems
J. Carter, R. Passint, D. Dai, Z. Fang and L. Zhang. US patent issued. 7,464,115
2. Method and Apparatus for Power Management of a Link Interconnect
E. Hallnor, Z. Fang and H. Rotithor US and foreign patents pending
3. Optimizing NoC Router Designs Using Cache Coherency Message Criticalities
Z. Fang, L. Cheng and S. Vangal US patent pending
4. A Novel Cacheline Replacement Policy to Optimize HD Video Encoding
Z. Fang, E. Hallnor, N. Gupte and S. Zhang US patent pending
5. A Low-cost Method to Allow Fast, User-Level Control of On-Die IO Devices
Z. Fang, M. Wagh, J. Ajanovic, M. Espig and R. Iyer US and foreign patents pending
6. Poll Delegation: A Completion Notification Mechanism for On-Die Accelerators
R. Iyer, M. Espig, Z. Fang and D. Harriman US and foreign patents pending
7. Providing Address Range Based Cacheability and Coherency Capabilities in the IO Interconnect
Z. Fang, D. Harriman and M. Leddige US and foreign patents pending
8. Automatically Building Superpages in Stack Memory Allocation
L. Zhao, Z. Fang, R. Iyer and D. Newell US patent pending
9. Mechanisms to Reduce Power Consumption of Set-Associative Data Caches
Z. Fang, L. Zhao, R. Iyer, S. E. Lee, R. Chappell, R. Carlson, M. Chinthamani and M. Kamble US patent pending
10. Selective Searching in Shared Caches
L. Cheng, Z. Fang, J. Wilder, S. Srinivasan, R. Iyer and D. Newell US patent pending
11. Using Checksum to Detect Motion in a Display System
K. Han and Z. Fang US and foreign patents pending