

JIAHUA HE

Department of Computer Science and Engineering
University of California at San Diego
9500 Gilman Drive
La Jolla, CA 92093-0404

TEL: (858) 546-1088
j2he@cs.ucsd.edu
<http://www.cse.ucsd.edu/~j2he>

EDUCATION

Ph.D. student in Computer Science, University of California at San Diego Sep. 2003 – Present
Advisor: Prof. Allan Snaveley and Prof. Henri Casanova
M.S. in Computer Software and Theory, University of Science and Technology of China Jul. 2003
Thesis: Performance Evaluation of SMP Cluster and Resource Management of Grid
Advisor: Prof. Guoliang Chen (Fellow of China Academy of Sciences)
B.S. in Computer Science and Technology, University of Science and Technology of China Jul. 2000
Thesis: Scalability Measurement Based on Time and Space Metrics
Advisor: Dr. Yongchang Ji and Prof. Guoliang Chen

RESEARCH INTERESTS

- Performance modeling and prediction (especially for parallel and distributed applications)
- Performance measurement and benchmarks (especially for Grid platforms)
- Resource Management and Task/Job Scheduling

PROFESSIONAL EXPERIENCE

Intern in Intel Corporation Summer 2006
Advisor: Dr. Michael Frumkin

- Data flow pattern recognition of scientific numeric applications
- Compiler based control and data flow program analysis

Graduate Student Researcher Jul. 2005 – Present
Advisor: Prof. Allan Snaveley

- Performance modeling and prediction of parallel applications
- Application benchmarks of data intensive grid

Graduate Student Researcher Sep. 2003 – Jun. 2005
Advisor: Prof. Henri Casanova

- Task scheduling of desktop grid
- Application benchmarks of data intensive grid

Research Assistant Sep. 2000 – Jul. 2003
Advisor: Prof. Guoliang Chen

- Resource management and task scheduling of Grid
- Parallel computational model and scalability of SMP cluster

Undergraduate Research Assistant Sep. 1999 – Aug. 2000
Advisor: Dr. Yongchang Ji and Prof. Guoliang Chen

- Scalability analysis of parallel applications

TEACHING EXPERIENCE

“Principles in Computer Architecture” University of California, San Diego Winter 2008
Teaching assistant responsible for grading, office hours and projects
“Parallel and Distributed Computing” University of Science and Technology of China Fall 2002
Co-instructor responsible for the parallel programming part
“Parallel Programming” University of Science and Technology of China Fall 2001
Teaching assistant responsible for grading homework and programming assignments
“Parallel and Distributed Computing” University of Science and Technology of China Fall 2000
Teaching assistant responsible for grading homework and programming assignments

PUBLICATIONS

- **Jiahua He**, Allan Snavey, Rob F. Van der Wijngaart, Michael A. Frumkin: Code coverage, performance approximation and automatic recognition of idioms in scientific applications. HPDC 2008: 223-224
- Omid Khalili, **Jiahua He**, Catherine Olschanowsky, Henri Casanova, Allan Snavey, “Measuring the Performance and Reliability of Production Computational Grids”, Grid 2006: 293-300
- **Jiahua He**, Omid Khalili, Catherine Rose Mills Olschanowsky, “Benchmarking and Measuring Grid Platforms: Software Tools and Results on the TeraGrid”, Poster in ResearchExpo’05, Jacobs School of Engineering, UCSD, Feb. 25, 2005
- **Jiahua He**, Guoliang Chen, Jiulong Shan, “How to Measure Scalability of SMP Cluster”, Journal of Software, pp. 977-986, Vol.15 (7), 2004
- **Jiahua He**, Guoliang Chen, Jiulong Shan, “Optimal-processor-set Speedup of SMP Cluster”, Proc. of 5th International Conference on Algorithms & Architectures for Parallel Processing (ICA3PP 2002), pp. 329-332, IEEE Computer Society Press, Oct. 2002
- **Jiahua He**, Guoliang Chen, Qing Ding, “A Hybrid Meta-task Mapping Heuristic for Computational Grid”, International Workshop on Grid and Cooperative Computing (GCC 2002), Dec. 2002
- Cheng Zhong; Guoliang Chen; **Jiahua He**, “Parallel Computing for the Longest Common Subsequences in Network Intrusion Detection System”, Proceedings of 2004 International Conference on Machine Learning and Cybernetics, Volume 4, Page(s): 2553 – 2557, 26-29 Aug. 2004
- Yong Chen, Guoliang Chen, Chunsheng Li, **Jiahua He**, “Hybrid Programming Model Research on SMP Cluster Architecture”, Mini-Micro Systems, Vol.25, No.10, pp.1763-1767. 2004
- Qing Ding, Guoliang Chen, Jiulong Shan, **Jiahua He**, “A Securities Market Based Resource Allocation Model in Computational Grid Environment”, Mini-Micro Systems, Jan. 2003
- Jiulong Shan, Guoliang Chen, **Jiahua He**, Xin Chen, “Grid Society: A System View of Grid and P2P Environment”, International Workshop on Grid and Cooperative Computing (GCC2002), Dec. 2002
- **Jiahua He**, Jiulong Shan, “Construction of Beowulf Cluster”, Practice of Parallel Programming, Guoliang Chen, (ed.), Higher Education Press of China, Sep. 2003
- **Jiahua He**, Jiulong Shan, “Scheduling and Performance Optimization of Parallel Program”, Practice of Parallel Programming, Guoliang Chen, (ed.), Higher Education Press of China, Sep. 2003

TECHNICAL SKILLS

- Windows, and Linux/Unix
- C/C++, Perl, Java, Matlab, MPI, OpenMP

LANGUAGES

English, Chinese (Mandarin and Cantonese)

HONORS & AWARDS

- 2003, Fellowship of UCSD
- 2003, Graduated with honor from University of Science and Technology of China
- 2002, Legend Group Co. Scholarship (ranked 1st of 57 students in our class)
- 2001, 3-Good (good academic achievements, good moral and good health) Student of Anhui Province
- 1999, Excellent Student Leader of University of Science and Technology of China
- 1999, Outstanding Student Scholarship (Grade 2)

REFERENCES

Available on request