Qiuyun Wang

Curriculum Vitae

Research Interests

Energy efficient cloud computing framework.

Hardware resource management with economic theory.

Memory system architecture.

Effective datacenter simulation methodology.

Education

2012-present **Ph.D. student in Computer Engineering**, ***Duke University***, NC, US.
GPA: 3.71

- Adviser: Dr. Benjamin Lee
- Group: Computer Architecture

2009-2012 **M.S. in Embedded Systems and Information Processing**, ***University of Paris Sud (Paris XI)***, France, Rank 3/43.

Second Degree **Magistere** IST-EEA: A selective 3-year M.S. degree, joint program of University Paris XI and Ecole Normale Supérieure (ENS) Cachan.

2006-2009 **B.E. in Optoelectronic Information Engineering**, ***Huazhong University of Science and Technology***, China, GPA: 87/100.

2006 **China National College Entrance Exam**, *Top 1%*.

Research Experience

Aug. 2012 - Present **Research assistant at Duke University**, *NC*, US.
- Implemented task scheduling policies for datacenters.
- Modeled power modeling for DRAM and communication technologies.
- Built a heterogeneous datacenter resource allocation framework with Java using a machine learning approach.

Mar. 2012 - Aug. 2012 **Ecole Polytechnique Fédérale de Lausanne (EPFL)**, *Launsanne*, Switzerland.
- Advisers: Réné Beuchat, Paolo Ienne
- Debugged and profiled the performance of a Freescale P5020DS with e5500 cores (Power Architecture) for HPC benchmarks. Prepared a Gentoo kernel and file system.

Mar. 2011 - May. 2011 **Ecole Normale Supérieur Cachan (ENS) Cachan**, *France*.
- Adviser: Gilbert Pradel
- Developed the software for a robot for autistic infants with an IGEPv2 card (OMAP processor). Cross-compiled a Linux kernel and developed display and network interfaces.

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additional information

Jun. 2011 - Oct. 2011 **Laboratory of Signal and Systems**, *CNRS*, France.
- Adviser: Michel Kieffer
- Implemented maximum a-posterior estimator via belief propagation. Reconstructed an overcomplete input signal performed by oversampled filter banks from noisy quantized transmission channel.

Oct. 2009 - Jan. 2010 **Ecole Supérieur D'Electricité (Supélec)**, *France*.
- Adviser: Sorin Olaru, Silviu-Iulian Niculescu
- Built a prediction model for benchmark synchronization systems affected by delays and uncertainties. Optimized and simulated predictive control laws with Matlab.

Honors and Awards

2013 Grace Hopper Celebration, GHC Twitter Scholarship Recipient

2012 Graduate Fellowship, Duke University, Electrical and Computer Engineering department

2010 Outstanding Graduates, Huazhong University of Science & Technology

2007 Excellent Student Leader Scholarship, Huazhong University of Science & Technology

2007 Excellent Activist of Sports and Arts Scholarship, Huazhong University of Science & Technology

Publications

2012 **Q. Wang**, *M. Abid, M. Kieffer and B. Pesquet-Popescu*.
"MAP Estimation of the Input of an Oversampled Filter Bank from Noisy Subbands by Belief Propagation" *IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP 2012), Kyoto, Japan*

2014 **Q. Wang**, *B. Lee*.
"NUMA-aware Task Placement Strategies for Datacenters", under submission

Teaching Assistant

2013 Fall **Computer Architecture (CPS250)**, *Duke University*.

2014 Spring **Compiler Construction (ECE553)**, *Duke University*.

Course Projects

2013 Spring **Compiler Construction**, *Duke University*.
Built a Tiger to MIPS compiler using the SML functional programming language. Implemented register allocation via graph coloring and register spilling.

2012 Fall **Operating System**, *Duke University*.
Built a persistent file system with safe management mechanism that supports concurrent reads and writes by multiple users. Implemented the caching and an efficient eviction policy.

Relevant Classes

- Datacenter Architecture
- Advanced Computer Architecture
- Parallel Computer Architecture
- Compiler Construction
- Operating Systems
- High Performance Computing
- Networking and QoS
- Network on Chip Design

- Neural Networks and Statistic Learning
- Real-time Digital Systems
- Microeconomics Mechanism Design
- Electronics Design for Embedded Systems

Technical Skills

Languages	C/C++, SML, JAVA, PYTHON, Unix Shell, VHDL, SIMD, OpenMP
Simulation Tools	MARSSx86, Dramsim2, SimpleScalar, CACTI, BigHouse
Others	Linux, GNU LP kit, Matlab, Eclipse, LaTeX, ModelSim, Cadence, Mentor Graphics, Orcad/Pspice

Activities

2012 - Present **ACM-W**, *Duke University*.
Currently serve as Secretary/Treasurer. Help to organize speaker events, regular meetings, web design and maintenance.

2007 **Young volunteers**, *China*.
Taught mathematics and physical education at primary schools and junior high schools in underprivileged mountain areas in China. Won the honor of *"Excellent Social Practice Team"*, Huazhong University of Science & Technology, 2008.

Languages

English	**Fluent**
French	**Fluent**
Chinese	**Native**

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