Lu Shengliang

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Education

B.Eng. Computer Engineering *Anticipated Graduation: May 2016*
***NTU**, Nanyang Technological University*, Singapore

- CGPA 4.53 of 5.00
- Dean's List of Academic Year 2014/15

Parallel Computing Related Experiences

Parallel Computing Coursework *Aug - Nov 2015*

- Learned knowledge about parallel computing
- Programmed MPI-based programs to solve all-pair shortest path problem
- Programmed Openmp-based programs
- Programmed more than 3000 lines of CUDA
- Optimized CUDA-based Floyd algorithm from 50 times speedup to more than 500

Leadership, Team NTU III leader *Oct 2015 - Current*

- Participating in 5th ISC-HPCAC Student Cluster Competition during 20 - 22 Jun 2016
- Leading a team of 5 undergraduate students
- Conducting peer training

Internship, Building of a GPU Computing Research Cluster *Jul - Oct 2015*

- Attached to Rapid-Rich Object Search Lab, NTU
- Used Rocks cluster distribution
- Configured head node and compute nodes network connections
- Used Docker for Cuda GPU computing and LXC for resources provision and control
- Provided solutions for user management

Other Experiences

Undergraduate Research Project, Study of Healthcare and Wellness Science using Wearable Sensors through Scientific Literature Approach *Sep 2014 - Jun 2015*

- Attached to Neural & Biomedical Technology Department (A*star I^2R Singapore)
- Developed a text mining tool using Perl & Python for analyzing research publication abstracts
- Used Regex and simple data structures
- Solved case studies of 300,000 samples within 1 minute
- Fortified biomedical text mining by deploying web crawler
- Distinguished text mining situations using biomedical and multidisciplinary case studies
- Supervised by Associate Professor Wang Ping and Dr. Ge Yu

Internship, Development of Secure Thin Client for ATM *Dec 2014 - May 2015*

- Modified and installed XtratuM Hypervisor on x86 PC
- Developed a Linux USB device driver
- Developed an ATM GUI client using Qt/C++
- Compiled and installed Linux kernel into XtratuM
- Used Makefile, Bash and Perl scripts

Contest, 2013 ACM-ICPC Asia Jakarta Regional Contest *Oct 2013*

- Used Java Programming Language
- Participated representing School of Computer Engineering NTU
- Solved 3 problems (in team)

Contest, National Olympiad in Informatics, China *Jul 2010*

- Used Pascal Programming Language
- Solved algorithm problems under Linux environment
- Won Bronze medalist

Contest, National Olympiad in Informatics in Provinces, China *Sep 2006 - Nov 2010*

- Used Pascal Programming Language
- Solved algorithm problems under Windows environment

Coursework Highlights

- Managed an online invigilation software development
  - Agile Project development manager
  - Multithreaded, asynchronous video server development in Java
- Built a robotic system that can autonomously explore and traverse unknown areas
  - Chief Arduino Engineer/Hardware Leader in a team of eight
  - Exploration algorithm & obstacle detection algorithm
  - Arduino programming, Motor control, Sensor detection
- Implemented MIPS CPU under simulation in Verilog
  - Five-stage pipelining
  - Hazard detection & data forwarding
  - Static branch prediction & out-of-order execution as enhancements
- Implemented TLB based on understanding of Operating System concept
  - Nachos (C++ version) OS environment
  - Searching & replacing algorithm programming
- Designed and constructed a blood pulse wave data acquisition system
  - Signal conditioning, data acquisition
  - Post processing & graphic display in MatLab

Skills

Programming: C/C++, Perl, CUDA, Java, Python, Shell, Assembly, Verilog, Pascal

Operating Systems: Linux full-time user, Windows

Hardware Platform: Arduino, ARM Cortex development board, FPGA