

LU SHENGLIANG

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EDUCATION

B.Eng. Computer Engineering

NTU, Nanyang Technological University, Singapore

Anticipated Graduation: May 2016

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

NTU President Research Scholar

Senior Middle 3 Scholar

RESEARCH AND INTERNSHIP EXPERIENCE

Final Year Project, Secure Microkernel Design

Aug 2015 - Present

- Studying XtratuM bare-metal hypervisor
- Reading and Debugging C code and SPARC assembly code
- Learning hypercall and trap handler mechanism

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

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
- 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

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

COMPETITION EXPERIENCES

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)

National Olympiad in Informatics, China

Jul 2010

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

National Olympiad in Informatics in Provinces, China

Sep 2006 - Nov 2010

- Studied algorithm and data structure since 13 years old

COURSEWORK HIGHLIGHTS

Programmed parallel all-pair shortest path problem solutions

- MPI-based programs
- Openmp-based programs
- Cuda-based programs (more than 3000 lines of code)
- Profiling and optimization of different parallel programs

Managed an online invigilation software development

- Agile Project development manager
- Multithreaded, asynchronous video server development in Java

Built a robotic system to explore and traverse unknown areas automatically

- 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

LEADERSHIP ACTIVITIES

Group Project Leader, Undergraduate Coursework

Aug 2012 - Present

- Team leader of 9 projects (in total 13 projects) for core modules
- Project scheduling and team management

Team Leader, ISC-HPCAC Student Cluster Competition

Oct 2015 - Present

- Leader of Team NTU III, 5 undergraduate students
- Conducting peer training

Vice President, NTU Dragon & Lion Dance Troupe

Aug 2013 - Jul 2014

- Top tier club under Cultural Activities Club
- More than 40 active members
- Organizer of nationwide lion dance competition in Singapore

Founder & Leader, ACM-ICPC Asia Jakarta Regional Contest team “FSM”

Oct 2013

- Self-organized training without supervision

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