

# LU SHENGLIANG

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## EDUCATION

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**B.Eng. Computer Engineering — GPA 4.53/5.00**    *Anticipated Graduation: May 2016*  
*Nanyang Technological University, Singapore*

## EXPERIENCE

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**Internship**, Build a GPU Computing Research Cluster *Jul 2015*

- Attached to Rapid-Rich Object Search Lab
- Used Rocks Cluster Distribution
- Configured Head-node and Compute-node network connections
- Analyzed user management and resources control requirements and proposed possible solutions
- Used Docker and composed Dockerfile for Cuda GPU computing
- Used LXC (cgroups) for resources provision and control
- Supervised by Mr. Yin Jianxiong

**URECA 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  $I^2R$ )
- Developed a text mining tool using Perl & Python for analyzing research publication abstracts
- Used Regex and Simple Data Structures
- 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

**Contestant**, 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)

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

- Used Pascal Programming Language

- Solved algorithm problems under Linux environment
- Won Bronze medalist

**Contestant**, National Olympiad in Informatics in Provinces, China

*2006 - 2011*

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

## COURSEWORK HIGHLIGHTS

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- Managed an online invigilation software development
  - Agile Project Development Manager
  - Programmed software server in Java
  - Multithreaded, Asynchronous Server
- Built a robotic system that can autonomously explore and traverse unknown areas (in a team of eight)
  - Chief Arduino Engineer/Hardware Leader
  - Exploration algorithm & obstacle detection algorithm
  - Arduino programming, Motor control, Sensor detection
- Used Verilog to implement a five-stage pipelined CPU with MIPS instruction set under simulation
  - With 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
- Designed and constructed a blood pulse wave data acquisition system
  - Signal conditioning, data acquisition
  - MATLAB for post processing & graphic display

## LEADERSHIP ACTIVITIES

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**Vice President**, NTU CAC, Dragon & Lion Dance Troupe

*Aug 2013 - May 2014*

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

*Oct 2013*

## SKILLS

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

**Operating Systems:** Linux full-time user, Windows

**Applications:** Git, Make, Emacs, Vim, L<sup>A</sup>T<sub>E</sub>X, Docker

**Hardware Platform:** Arduino, ARM Cortex development board, FPGA