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# ZHENG YU ZHANG

## EDUCATION

Institute of Computing Technology (ICT), Chinese Academy of Sciences, Beijing, China  
M.S., Computer Science, Sep. 2015 - Jun. 2018  
GPA: 3.63/4    Ranking: N/A

Nanjing University of Information Science and Technology (NUIST), Nanjing, China  
B.S., Computer Science, Sep. 2011 - Jun. 2015  
GPA: 92.63/100    Ranking: 1/104

## EXPERIENCE

Present  
Aug. 2016

### High Performance Storage Network Design and Applications

Research assistant, National Research Center for Intelligent Computing Systems, ICT, CAS

- Investigated and evaluated existing I/O technologies, i.e. RDMA and NVMe.
- Co-designing hardware accelerated NVMe-over-RDMA system based on upon investigation.
- Verifying the promises of new I/O technologies in following applications:

### Large Scale Graph Computing

- Analyzed and evaluated state-of-the-art graph computing frameworks.
- Applying high performance storage network in graph computing system designing to achieve low latency, low I/O CPU utilization, high throughput and large capacity.

### Key-value Store Datapath

- Accelerated network communication by replacing TCP/IP socket with RDMA verbs.
- Accelerated storage by conducting user-level I/O instead of kernel-based access.

May 2015  
Mar. 2015

### High Performance Fusion Interconnection Networks

Intern, National Research Center for Intelligent Computing Systems, ICT, CAS

- Designed and implemented TCP/IP over RDMA-like communication system to support cloud computing, adding 10 $\mu$ s overhead and saturating 65% of raw bandwidth.

Apr. 2015  
Apr. 2014

### Kernel Space Transparent Encryption Filesystem

Project host, Jiangsu Provincial Engineering Center of Network Monitoring

- Invented a kernel-space stackable filesystem to encrypt/decrypt data automatically.
- Designed and developed policy module and user-space interface, focusing on protecting user data privacy on mobile devices with less impact on user habits.
- Applied for fundings, managed the whole project and looked for investors.

Dec. 2014  
Jan. 2014

### Automatic Reconstruction of Shredded Chinese Documents

Project host, Jiangsu Provincial Student Innovation Training Program

- Co-invented Chinese Characters Based Evaluation and the fast reconstruction algorithm based on the evaluation, reducing the error rate by 18% with better time complexity.

## INTERNSHIP

Jul. 2016  
Mar. 2016

### Red Hat Inc, Beijing

- Maintained crash data dumping facilities in Linux Kernel.
- Worked with international open source communities to identify, trace and fix bugs in softwares, i.e. Linux Kernel, NFS, etc.
- Developed an auto-bisect tool, which is now used by the team to locate defective git commits.

Aug. 2013  
Jul. 2013

### ArcherMind Technology Inc, Nanjing

- Worked on a mobile phone prototype specially designed for the blind.
- Compiled Android Open Source Project with a special touch screen driver for the prototype.

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## PUBLICATIONS

- 2017      Zhongqi An, **Zhengyu Zhang** and Qiang Li. Optimizing the Datapath for Key-value Middleware with NVMe SSDs over RDMA Interconnects. IEEE International Conference on Cluster Computing (CLUSTER shortpaper).
- 2014      Jinwei Wang, **Zhengyu Zhang**. Method and system for file transparent encryption and decryption of Android platform. China Patent. CN104252605.
- 2014      Bo Zhao, Yu Zhou, **Zhengyu Zhang**, Ying Na and Tinghuai Ma. Information Quantity Based Automatic Reconstruction of Shredded Chinese Documents. IEEE 26th International Conference on Tools with Artificial Intelligence (ICTAI, Tier 2).

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## HONORS

- 2017      Schlumberger Scholarship of Institute of Computing Technology (5%)  
201[2,3,5]      President Scholarship of Nanjing University of Information Science and Technology (1%)  
                 Pacemaker of Merit Student of Nanjing University of Science and Technology (1%)
- 2014      National Scholarship of China (2%)  
                 First Prize in the Lanqiao Programming Contest(Jiangsu Division) for College Students
- 2013      Certificate Authority Cup International Mathematical Contest in Modeling Certificate of Achievement A LEVEL
- 2012      Mary Scholarship (15 students in total from the whole university )

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## SKILLS

- Computer:      Linux kernel (see 'EXPERIENCES') and Open Source work flow  
                 Building & tracing & debugging & profiling softwares and configuring services under Linux/Unix  
                 Programming languages I use frequently: C > shell > C++ > Java > python > assembly
- Courses:      Operating System, Computer Networks, Computer Architecture, High Performance Computing System, Data Mining System, Algorithms, Discrete Mathematics, Probability & Statistics, etc.
- Language:      Mandarin(native)    English(TOEFL Speaking 27/30)