

Hao Tong

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EDUCATION

Ph. D. in Computer Science, Department of Computer Science
The University of Chicago
Advisor: Prof. Haryadi S. Gunawi
Started Sept. 2014

Master of Science in Computer Science, Department of Computer Science
The University of Chicago
Advisor: Prof. Haryadi S. Gunawi
June. 2016

Bachelor of Science in Computer Science School of Advanced Engineering(SAE)
GPA 3.87/4.00
Beihang University, Beijing, P.R.China,
Sept. 2010 - Jun. 2014

Exchange Bachelor, Department of Applied Mathematics and Computer Science
Technical University of Denmark, Copenhagen, Denmark
Concentration: Computer Science
Sept. 2013 - Jan. 2014

RESEARCH INTERESTS

Areas: Cloud Computing, Operating Systems, File/Storage Systems, and Distributed Systems.
Focuses: Storage Systems, Operating Systems.

SKILLS

Programming Language: C, C++, C# , Java, Python, Ruby, F#, PHP
Web Design: JavaScript, HTML, Ruby on Rails
Software: Apache HTTP server, Hadoop, VIM, GCC, Microsoft Visual Studio, Microsoft SQL Server, MySQL, etc.

RESEARCH & EXPERIENCE

Internship **Supervisor:** Philip Shilane June. 2016-Sept. 2016
Dell EMC

- *Multiple Layer Cache Policies Study(Ongoing project)*

I investigated multi-level caching to understand the value of new storage media including NVMe and NVDIMMs. I also looked at the impact and interaction of different layers, different caching algorithms, and global promotion policies.

Research Assistant **Supervisor:** Haryadi Gunawi Sept. 2014-now
UChicago systems research on Availability, Reliability and Efficiency

- *Tail Tolerant RAID(Ongoing project)*

I am studying the linux kernel module of block devices, RAID4/5/6, direct I/O and SATA, ACHI drivers, and building a kernel with altered direct I/O, RAID layers to minimize the impact to RAID from the variance in performance of component disks.

The implementation is a customized kernel distribution, and it will be tested on simulators, RAID of disks, and RAID of SSDs.

The technique can also be applied to all RAID systems which are facing the same problems.

- *Tail Tolerant DRAM*

Some part of a DRAM can be slow down because of temperature, voltage, with-in die variation and etc. I am studying the memory management module in linux kernel, this research is to explore the possibility to solve the problem of partial slow DRAM by migrating data and redirect page mapping.

Internship

Supervisor: Jinpeng Huai Summer 2012-2014

Institute of Advanced Computing Technology, China

- *Integration of edX and Virtual Resources Distribution(Undergraduate Dissertation)*

I made use of edX platform and a Virtual machine resources management platform in Beihang University, implemented a online course platform based on edX which provided opportunities to students that they could do computer related experiments directly on web sites, instead of on local machines.

I altered the interfaces of edX and VM resources management platform, and implemented a middleware which handles requests from students, manages VM images and enhances the communications between clients and server.

This technique can be used on a lot of online courses platforms and it minimize the cost of learning by sharing authorized software and hardware resources through virtualizations.

Internship

Supervisor: Xiaohua Shi Sep 2012 - Feb 2013

State Key Laboratory of Software Development Environment, China

- *Open-source operating system kernel analysis and safety assessment*

The main task for us is analysis on Android Dalvik Virtual Machine, runtime library and other function libraries, in which I analyzed the part of garbage collection in Android 4.0.3, and I learned multiple techniques of garbage collections.

Research on Sentiment Analysis

Supervisor: Zhoujun Li 2012 - 2013

- *Personalized Analysis of Emotion in Social Networking Environment*

Creative Competition of FengRu Cup in Beihang University

This paper discusses the feasibility and basic principles of natural language processing technology on analysis of text to identify the user's emotion.

- *Personalized Analysis of Emotion Based on OCC Model*

Student Research and Training Project

This project is applied to RenRen, a social network in China. It will analyze the emotion behind the text a certain user posts on his account using keyword extraction, clustering and natural language processing. In this way, it can evaluate the emotion on a level, so that the emotion can be visualized.

- *Evaluation of the Credibility of Micro-Blogs about Government*

The National College Students Innovation and Entrepreneurship Training Program

This project is applied to Sina Weibo. Through keyword extraction, clustering and natural processing to identify the contents, it divides the contents into categories, and assess the credibility of some which are of the government news.

Team leader in mathematical modeling team

2012 - 2013

- 2013 Mathematical Contest In Modeling
- 2012 China Undergraduate Mathematical Contest in Modeling

HONORS & AWARDS	Student Grant 12th USENIX Symposium on OSDI	Nov 2016
	Meritorious Winner Mathematical Contest In Modeling	Apr 2013
	First Prize China Undergraduate Mathematical Contest in Modeling	Dec 2012
	First Prize Creative Competition of FengRu Cup in Beihang University	May 2012
	Annual Excellent Student Education Prize of Baosteel Group	Dec 2012
	First Prize 28th Physics Competition for College Students of China	Oct 2011
	Scholarships in Study, Extracurricular and Competitions	2010 - 2013

GRADUATE COURSES	Big Ideas in Computer Science	Autumn 2014
	Computer Architecture	Autumn 2014
	Introduction to Computer Security	Autumn 2014
	Advanced Operating Systems	Winter 2015
	Algorithms	Winter 2015
	Data Intensive Computing Systems	Spring 2015
	Machine Learning	Spring 2015
	Discrete Mathematics	Autumn 2015
	Computational Linguistics	Sprint 2016

REFERENCES	Haryadi S. Gunawi Professor of Computer Science, the University of Chicago Email: haryadi@cs.uchicago.edu
	Philip Shilane Consultant Research and Development Engineer in the CTO Team for Dell EMC Core Technologies Email: Philip.Shilane@dell.com