Xu Zhang

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■ *Education*

- ◆ **Ph.D.** student in Computer Science   University of Illinois at Chicago   2009 ~ present   GPA 3.9
  - • *Expected graduation: Aug, 2016*
- ◆ **B.E.** in Software Engineering   Wuhan University, China   2005 ~ 2009   Honored Graduate

■ *Industry Experience*

- ◆ **Software Engineer Intern**, Search Infrastructure, **Google Inc.**   05/2014 ~ 08/2014
  - • Built from ground up a best-effort logging and recovery service at large scale to expedite system re-start for latency-restrictive portion of Google search infrastructure's production serving pipeline.

- ◆ **Software Engineer Intern**, XFP, **Google Inc.**   05/2013 ~ 08/2013
  - • Analyzed distribution of dimensions for a custom file format. Designed and implemented benchmarks on more than five competing systems, each required specialized knowledge and tuning. Changed the technical directions of the team.

■ *Academic Experience*

- ◆ **Research Assistant**, Dept. of Computer Science, Univ. of Illinois at Chicago   2010 ~ present
  - • **Next generation Multi-Processor Ethos** (on-going):
    - ◆ Research involves Ethos--a clean slate operating system to reduce effort to write secure applications.
    - ◆ Kernel partitioning, scheduling, load balancing for multi-processor; typed system calls via messaging.
    - ◆ Efficient cross-address-space inter-process communication (IPC) design and implementation.
  - • **Ethos Kernel** (one of major Ethos kernel and user space developers):
    - ◆ Kernel development and major improvement in interrupt and exception servicing, paging, system scheduling, reliable network protocol, among many others.
    - ◆ Completed Ethos' Xen para-virtulized x86-64 port, resulted greatly improved performance (x86-64 interrupt races fix-up, kernel FPU safeguard, Golang AMD64 run time, memory protection and etc.).
    - ◆ Event library for both user and kernel (concurrency, co-operative threading, x86 ABI).
    - ◆ Fixed a fundamental bug in Xen's mini-OS x86-64 kernel entry to handle race due to nested interrupt.
    - ◆ Made Ethos kernel much more stable: Ethos reliable network protocol fix-up; isolated Ethos network hang; fixed process memory leaks; recovered Ethos from process memory exhaustion.
  - • **Ethos Markup DOM**. A document object model (DOM) with collaboration-control awareness for Ethos markup language in Go programming language (GoLang).

- ◆ **Teaching Assistant**, OS Design and Implementation, University of Illinois at Chicago   2009 ~ 2010, 2015

■ *Publication*

[1] W. Michael Petullo, **Xu Zhang,** Jon A. Solworth, Daniel J. Bernstein, and Tanja Lange**,** "MinimaLT: Minimal-Latency Networking Through Better Security", 20th ACM Conference on Computer and Communications Security (CCS'13), 2013.

■ *Honors and Awards*

- ◆ ACM SIGOPS SOSP'15, USENIX OSDI'14 Student Scholarship, ACM CCS'13 Student Grant
- ◆ University Honored Graduates, Wuhan University, 2009
- ◆ Outstanding Student Scholarship (top 5%, 8%), Wuhan University, 2006 ~ 2008
- ◆ SAN-HAO Student Award (top 8%), Wuhan University, 2006 ~ 2008