

## Experience

- 2006–2013 **Graduate Researcher advised by Geoff Voelker**, *Univ. of Ca.*, San Diego.  
Researcher in systems and networking, working on the following projects:
- *Dspin*: Dspin detects spinning campaigns at web scale using Pig/Hadoop and reverse engineering of SEO software. Spinning is an automated form of SEO that avoids duplicate detection of search engines by rewording and restructuring content.
  - *Sifter*: Sifter evaluates the quality of web traffic from pay-per-click web traffic vendors. The project involved web server design, replication across Amazon's EC2, and identifying client behavior on each replicate based on mouse movement, timing, user agent strings, referrers, and black lists.
  - *Neon*: Neon tracks data and derived data at the granularity of a byte within a protected network. It leverages Xen and QEMU to remain transparent to host operating systems, and is capable of enforcing arbitrary policies on each byte.
  - *Glavlit*: Glavlit prevents network exfiltration and avoids impact on authorized network protocols. It separates vetting of authorized objects from line-speed verification and employs a restricted HTTP subset to limit covert channels.
- 2008 **Intern advised by Lidong Zhou**, *Microsoft Research Asia*, Beijing, China.  
Setup Dryad on a DCell cluster, explored the network traffic of data intensive applications, and profiled the behavior of DryadLINQ applications.
- 2005 **Research Assistant advised by Juliana Freire**, *Univ. of Utah*, Salt Lake City.  
Implemented a new query translation which translates XML based queries into traditional relational database system queries.
- 2004 **Research Assistant advised by YuanYuan Zhou**, *UIUC*, Urbana, IL.  
Flashback is a project that can deterministically replay processes via checkpoints, which I extended to support multiple checkpoints, compatible with the GNU Debugger
- 2003–2004 **System Administrator**, *Univ. of Utah*, Salt Lake City.  
Setup Linux servers, installations, security patches, department databases, and routers.
- 2003 **Teaching Assistant**, *Univ. of Utah*, Salt Lake City.  
Introduction to Computer Science using Scheme

## Education

- 2009–2013 **PhD**, *University of California*, San Diego.  
Computer Science
- 2006–2009 **M.S.**, *University of California*, San Diego.  
Computer Science
- 2002–2006 **B.S.**, *University of Utah*, Salt Lake City.  
Computer Science
- 2002–2006 **Minor**, *University of Utah*, Salt Lake City.  
Mathematics

## Computer skills (\* Denotes Most Familiarity)

Languages	Python*, Java*, Pig, C++, C, Matlab,	Web Design	PHP, XHTML, CSS, JavaScript
	Scheme, Bash		
Storage Systems	HDFS, MySQL, PostgreSQL	OS Experience	Ubuntu, Debian, Mac OSX, Windows
Misc. Skills	LaTeX, Photoshop, Inkscape, Gnuplot	Version Ctrl.	Subversion, Mercurial

San Diego – California

---

## Awards and Achievements

- 2011 **Amazon Award**, *University of California*, San Diego.  
Amazon awarded \$15K EC2 credit for fraud detection on the web.
- 2006 **NSF Graduate Research Fellowship**, *University of California*, San Diego.  
The NSF Graduate Research Fellowship recognizes and supports outstanding graduate students in NSF-supported science, technology, engineering, and mathematics.
- 2005 **UROP Recipient**, *University of Utah*, Salt Lake City.  
Recipient of the Undergraduate Research Opportunities Program
- 2005 **SWE Scholarship**, *University of Utah*, Salt Lake City.  
The Society of Women Engineers Scholarship supports women pursuing ABET-accredited baccalaureate or graduate programs in preparation for careers in engineering technology and computer science
- 2004–2005 **Department Scholarship**, *University of Utah*, Salt Lake City.  
Math Department Scholarship
- 2004 **Distributed Mentor**, *University of Utah*, Salt Lake City.  
Recipient of the distributed mentor scholarship at UIUC funded by the NFS
- 2003 **Micron Scholarship**, *University of Utah*, Salt Lake City.  
The Micron Scholarship recognizes students who exhibit superior academic and leadership skills and to encourage their pursuit of careers in high technology.
- 2003 **Techron Scholarship**, *University of Utah*, Salt Lake City.  
Recipient of the Techron Scholarship
- 2003 **CS Women’s Scholarship**, *University of Utah*, Salt Lake City.  
Recipient of the Computer Science Women’s Scholarship
- 2001-2003 **National Dean’s List**, *University of Utah*, Salt Lake City.  
Member of the National Dean’s List, which recognizes high GPA, while maintaining full unit load each semester
- 2002 **Clyde Christensen Scholarship**, *University of Utah*, Salt Lake City.  
The Clyde Christensen Scholarship is awarded to undergraduate students attending the University of Utah full-time, majoring in Engineering.

---

## Interests

Security	web spam, duplicate detection, click fraud	Distributed Systems	big data, fault tolerance, map reduce
Systems	networking, servers, Linux	Virtualization	Xen, KVM, Virtualbox, VMWare

---

## Publications

- [1] Q. Zhang, T. Ristenpart, S. Savage, and G. M. Voelker. Got Traffic?: An Evaluation of Click Traffic Providers. In *Proc. WICOW/AIRWeb WebQuality*, pages 19–26, 2011.
- [2] Q. Zhang, J. McCullough, J. Ma, N. Schear, M. Vrable, A. Vahdat, A. C. Snoeren, G. M. Voelker, and S. Savage. Neon: System Support for Derived Data Management. In *Proc. ACM SIGPLAN/SIGOPS VEE*, pages 63–74, 2010.
- [3] N. Schear, C. Kintana, Q. Zhang, and A. Vahdat. Glavlit: Preventing Exfiltration at Wire Speed. In *Proc. HotNets*, 2006.
- [4] Q. Zhang. ShreXQuery: An Improved Query Translator for XPath. *The University of Utah Abstract Journal of Research*, 2013.

---

## Extracurricular

### Women in Computing (WIC).

Served as a WIC officer for 4 years as webmaster, treasurer, and vice president