

Shaya Potter

<http://yucs.org/~spotter/>

Contact Information Shaya Potter e-mail: spotter@cs.columbia.edu
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Objective To utilize and improve my skills as a systems engineer, software designer, and researcher

Education **Columbia University** New York, NY
Doctor of Philosophy: Computer Science 2003 – 2009
Advisor: Dr. Jason Nieh
Dissertation: *Virtualization Mechanisms for Mobility, Security and System Administration*
Emphasis on research in computer systems, software migration, security, and system administration. Strong academic standing (3.953 GPA).
Master of Science: Computer Science 2001 – 2003
Yeshiva University New York, NY
Bachelor of Arts: Computer Science 1998 – 2001
Strong academic standing (3.7 GPA cumulative, 4.0 GPA in major)

Work Experience **IBM T.J. Watson Research Center** Hawthorne, NY
Post-Doctoral Researcher 2009 – Present

Services research with a focus on discovery and migration for cloud computing.

- Modified Galapagos discovery tool to perform discovery on non running dormant virtual machine images
- Created tools to enable IBM consultants to efficiently determine what physical machines can be migrated to the cloud

Network Computing Lab, Columbia University New York, NY
Lab member - Graduate Research Assistant 2001 – 2009

Engaged in a variety of research, primarily involving operating systems, process migration, security, and system administration

- Helped develop ZAP, a system for migrating computing environments intact from one computer to another. Involving ensuring that processes, file systems, devices all migrated together.
- AutoPod – Extended ZAP to support heterogeneous process migration to support migrating processes between different kernel versions.
- PeaPod – An extension of the ZAP architecture to support secure isolation and migration of cooperating processes
- *Pod – Leveraging the ZAP architecture to support application specific environments (desktop, web browser, multimedia content)
- Strata – A novel administrative framework that changes how one manages large numbers of machines. Introduces the Virtual Layered File System (VLFS) that combines union file system semantic with package management
- Apiary – Leverages Strata to create a secure desktop composed of isolated applications. Introduces ephemeral execution of applications.
- ISE-T – Prevents malicious and accidental system administration faults from entering a system by applying the two person control model to system administration.

IBM T.J. Watson Research Center Hawthorne, NY
Summer Intern Summer 2006

Worked on SoulPad, IBMs research project that leverages virtual machines to enable a user to carry ones desktop computing environment between physical machines.

- Focused on ability to productize and deploy SoulPad.

Microsoft Redmond, WA
Summer Software Development Engineer Intern Summer 2004

Worked on Windows Terminal Services Client, creating a cross platform core. This enables a single highly tested code base to be used across all of Microsoft's supported platforms (Win32, WinCE, XBox, MacOS X).

IBM T.J. Watson Research Center Hawthorne, NY
Summer Intern Summer 2003

- Designed and implemented Peer to Peer overlay networking architecture
- Investigated algorithms related to peering arrangement and search propagation

IBM T.J. Watson Research Center Yorktown Heights, NY
Summer Intern Summer 2001

Worked on IBMs Linux WatchPad prototype

- Implemented tools to analyze the WatchPads power usage in order to help optimize it
- Created a reduced memory footprint version of the WatchPad software
- Created a native development environment for the WatchPad, in order to allow compilation of many programs that will not cross-compile

IBM Extreme Blue Cambridge, MA
Summer Intern Summer 2000

Built portable trace tools, micro-benchmarks and file system benchmarks to create the tools to predict application performance across the platforms.

Student Organization of Yeshiva Seforim ("Book") Sale New York, NY
Software Designer and Developer 1999 – 2001

- Designer and developer of inventory and point of sale software to support this student run sale.
- Software handled over \$1 million in sales that occurred in the sales 2 week run each year.
- In charge of ensuring all IT services ran smoothly during the sale.

Naval Research Laboratory, Information Technology Division Washington, DC
Engineering Aid 1995 – 2000

Worked with the Fleet Network Security group of the Center for High Assurance Computing.

Major Projects

Designed a large district wide firewall and load balancing infrastructure that US Navy deployed around all their computing resources in San Diego with plans to deploy around other large installations. 1999 – 2000

Investigated many Network Intrusion Detection systems and other network security tools in order to determine if and how the US Navy could use them. 1998

Participated in software evaluation and development for the US Navy's IT-21 Initiative for the 21'st Century. 1997 – 1998

	Continued work started as a SEAP intern and helped build the Secure Tactical Access Terminal (STAT) which was deployed on the aircraft carrier USS Theodore Roosevelt to rave reviews.	1996
	NRL & George Washington University SEAP Intern	1995
	<ul style="list-style-type: none"> • Worked on porting Unix applications to MultiLevel Secure Workstations 	
Honors and Awards	LISA 2005 Best Student Paper Award	2005
	Mobicom 2004 Best Student Paper Award	2004
	Golding Distinguished Scholar (full 4 year undergraduate scholarship)	1998 – 2001
	ACM Programming Competition 5th place (NY Region)	1999, 2000
	SEAP's Most Outstanding Intern	1995
Selected Publications	Ricardo Baratto, Shaya Potter, Gong Su and Jason Nieh, "Mobidesk: Mobile Virtual Desktop Computing", <i>Proceedings of the Tenth Annual ACM International Conference on Mobile Computing and Networking (Mobicom 2004)</i> , Philadelphia, PA. Sept 26-Oct.1 2004 (Best Student Paper Award)	
	Shaya Potter and Jason Nieh, "WebPod: Persistent Web Browsing Sessions with Pock-etable Storage Devices", <i>Proceedings of the 14th International World Wide Web Conference (WWW 2005)</i> , Chiba Japan. May 10-14 2005.	
	Shaya Potter and Jason Nieh, "Reducing Downtime Due to System Maintenance and Up-grades", <i>Proceedings of the 19th Large Installation System Administration Conference (LISA 05)</i> , San Diego, CA. Dec. 4-9 2005. (Best Student Paper Award)	
	Shaya Potter and Jason Nieh, "Breaking the Ties that Bind: Process Isolation and Migra-tion", <i>login Vol 30(6)</i> . pp 14-17, Dec. 2005	
	Oren Laadan, Ricardo Baratto, Dan Phung, Shaya Potter, and Jason Nieh, "DejaView: A Personal Virtual Computer Recorder", <i>Proceedings of the 21st ACM Symposium on Operating Systems Principles (SOSP 2007)</i> , Stevenson, WA, October 14-17, 2007, pp. 279-292.	
	Shaya Potter, Jason Nieh and Matthew Selsky, "Secure Isolation of Untrusted Legacy Applications", <i>Proceedings of the Twenty-first Large Installation System Administration Conference (LISA 2007)</i> , Dallas, TX, November 11-16, 2007, pp. 117-130.	
	Shaya Potter, Steven M. Bellovin, and Jason Nieh, "Two-Person Control Administration: Preventing Administration Faults Through Duplication", <i>Proceedings of the 23rd Large Installation System Administration Conference (LISA 2009)</i> , Baltimore, MD, November 1-6, 2009, pp. 15-27.	
	Shaya Potter and Jason Nieh, "Apiary: Easy-to-Use Desktop Application Fault Contain-ment on Commodity Operating Systems", <i>Proceedings of the 2010 USENIX Annual Tech-nical Conference (USENIX 2010)</i> , Boston, MA, June 22-25, 2010.	
Skills	<i>Operating systems/Platforms:</i> Windows, UNIX (Solaris, Linux, BSD, AIX, HP-UX)	
	<i>Languages:</i> C, C++, Perl, Java, Tcl/Tk, Unix Shell Scripting, SQL, HTML	
	<i>Networks:</i> UNIX, Windows NT/2000, LAN/WAN hardware, remote access (Microsoft, Citrix MetaFrame, VNC, etc.), wireless (IEEE 802.11)	
	<i>Internet services:</i> Apache, Sendmail, Qmail, TCP/IP services (including BIND/DNS, NAT, DHCP, firewalling)	
References	Available on request	