

Alexander Van't Hof

New York, NY 10025
alexvh@cs.columbia.edu
www.alexvh.com

Research Interests

Operating Systems, Mobile Computing, Virtualization, Networking

Education

- 2013–Present **Doctor of Philosophy**, *Columbia University*, New York, NY, *Computer Science*.
Advisor: Jason Nieh
- 2013–2015 **Master of Philosophy**, *Columbia University*, New York, NY, *Computer Science*.
- 2010–2011 **Master of Science**, *Columbia University*, New York, NY, *Computer Science*.
- 2006–2010 **Bachelor of Science**, *Michigan Technological University*, Houghton, MI, *Computer Science*.
Summa Cum Laude

Work Experience

- Jan 2013–Present **Graduate Research Assistant**, *Columbia University*, New York, NY.
 - Co-developing a framework for sharing mobile device hardware.
 - Investigating new memory deduplication techniques for operating system level virtualization.
 - Co-built a kernel-level system enabling Android phones to run unmodified iOS applications.
- June 2013–Jul 2015 **Services Research Intern**, *IBM Research*, Yorktown Heights, NY.
 - Built a system enabling live migration of Android applications between heterogeneous devices.
 - Developed post-copy based live migration of Docker containers.
- June 2011–Jan 2013 **Senior Software Developer**, *Cellrox, Ltd.*, Tel Aviv, Israel.
First employee at mobile virtualization startup (\$4.7 million series A round funding, Dec. 2012).
 - Designed and developed substantial portions of Cellrox's framework.
 - Thoroughly investigated and modified portions of the Android operating system.
 - Frequently led designs, mentored colleagues, and acted as a critical source of knowledge for others.
- Aug 2012–Dec 2012 **Head Teaching Assistant (Operating Systems)**, *Columbia University*, New York, NY.
 - Designed and solved assignments involving the Linux kernel and Android userspace.
 - Created custom version of ReviewBoard to allow students to anonymously grade each other.
 - Maintained Git repositories used by students for working on and submitting assignments.
- June 2010–Aug 2011 **Web Operations Intern/On Call Associate**, *American Greetings*, Cleveland, OH.
- Feb 2012–June 2012
 - Involved in deployment, operation, and maintenance of Linux based web and development servers.
 - Automated installations of Xen hosts, load balancers, development servers, and web servers.
 - Completed Python-based web application for scheduling tasks and maintaining PCI compliance.

Awards/Scholarships

- 2014 IBM Ph.D. Fellowship
- 2014 Columbia CS Dept., Kosoresow Award for Outstanding Performance in TA-ing and Service
- 2012 National Science Foundation Graduate Research Fellowship Honorable Mention
- October 2011 23rd Symposium on Operating System Principles Best Paper Award
- Fall 2008 Michigan Tech Class of 1959 Scholarship
- 2006–2010 Michigan Tech Presidential Scholar of Excellence

Technical Skills

Expert	C, C++, Java	Expert	Python, Bash shell scripting
Expert	Android framework code	Expert	Linux system administration
Expert	Linux kernel development	Proficient	Perl, SQL (MySQL, SQLite)

Publications

- [1] A. Van't Hof, H. Jamjoom, J. Nieh, and D. Williams. Flux: Multi-Surface Computing In Android. *Proceedings of the 10th ACM European Conference on Computer Systems (EuroSys 2015)*, Bordeaux, France, Apr. 2015.
- [2] J. Andrus, A. Van't Hof, N. AlDuaij, C. Dall, N. Viennot, and J. Nieh. Cider: Native Execution of iOS Apps on Android. *Proceedings of the 19th International Conference on Architectural Support for Programming Languages and Operating Systems (ASPLOS 2014)*, Salt Lake City, UT, Mar. 2014.
- [3] C. Dall, J. Andrus, A. Van't Hof, O. Laadan, and J. Nieh. The Design, Implementation, and Evaluation of Cells: A Virtual Smartphone Architecture. *ACM Transactions on Computer Systems (TOCS)*, 30(3):9:1–9:31, Aug. 2012 (Invited Paper).
- [4] J. Andrus, C. Dall, A. Van't Hof, O. Laadan, and J. Nieh. Cells: A Virtual Mobile Smartphone Architecture. *Proceedings of the Twenty-Third ACM Symposium on Operating Systems Principles (SOSP 2011)*, Cascais, Portugal, Oct. 2011 (Best Paper Award).

Technical Reports

- [1] J. Andrus, A. Van't Hof, N. AlDuaij, C. Dall, N. Viennot, and J. Nieh. Chameleon: Multi-Persona Binary Compatibility for Mobile Devices. *Technical Report CUCS-011-13*, Dept. of Computer Science, Columbia University, Apr. 2013.
- [2] J. Andrus, C. Dall, A. Van't Hof, O. Laadan, and J. Nieh. Cells: A Virtual Mobile Smartphone Architecture. *Technical Report CUCS-022-11*, Dept. of Computer Science, Columbia University, May 2011.