Andrew J. Younge

CONTACT INFORMATION

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CITIZENSHIP

USA

RESEARCH INTERESTS

Cloud Computing, Green IT, Grid Computing, Distributed Systems, Ubiquitous Computing, Wireless Sensor Networks

EDUCATION

Indiana University, Bloomington, Indiana USA

Ph.D (expected), Computer Science — **Apr 2010 – present**

- Thesis: *To be determined*
- Advisor: Geoffrey C. Fox
- Area of Study: Cloud Computing
- GPA: 4.0

Rochester Institute of Technology, Rochester, New York USA

M.S., Computer Science — **Aug 2008 – May 2010**

- Thesis: Towards a Green Framework for Cloud Data Centers
- Advisor: Warren Carithers
- Area of Study: Cloud Computing & Grid Computing
- GPA: 3.8

B.S., Computer Science — **Aug 2004 – May 2008**

- Emphasis on Operating Systems and Networks
- Minor in Psychology
- GPA: 3.5

AWARDS

Google — **2011**

- Graduate student contractor award from Google Inc.
- Enhancing Globus DemoGrid for use in open Cloud platforms with Borja Sotomayor, PhD.

Indiana University

- Student Fellow at the Center for Applied Cybersecurity Research — **2011**
- Graduate Research Assistantship — **2010 – 2011**

Rochester Institute of Technology

- Graduate Researcher Scholarship — **2008 – 2010**
- Undergraduate Academic Scholarship — **2006 – 2008**
- Deans List — **2004 – 2008**

International Supercomputing Conference — **2009, 2010**

- Student scholarship to attend the International Supercomputing Conference (ISC) in 2009 and 2010.
- Member of the ISC network operations team.
- Participated in the Cloud Computing session.

ACM/IEEE Supercomputing **Nov 2009**

- Selected to be a Student Volunteer for the ACM/IEEE Supercomputing 2009 conference in Portland, OR USA.
- Member of SCinet Fiber and Helpdesk teams.

IEEE International Conference on Cluster Computing **Sep 2009**

- NSF sponsored student scholarship to attend IEEE Cluster, 2009 in New Orleans, LA USA.

Open Science Grid **Jul 2009**

- Open Science Grid Scholarship to attend the International Summer School on Grid Computing (ISSGC) in Nice, FR.

Experience

Indiana University, Bloomington, Indiana USA

Researcher - The FutureGrid Project **Apr 2010 to present**

- Work in the Pervasive Technology Institute under the direction of Gregor von Laszewski, PhD.
- Developer for the NSF FutureGrid project, a high-performance distributed cloud and grid testbed for advanced scientific research.

Rochester Institute of Technology, Rochester, New York USA

Graduate Researcher **Jun 2008 to Mar 2010**

- Developed Green-Cloud Framework for next generation data centers.
- Helped coordinate other programming activities within the group.
- Lead developer on the Cyberaide projects.
- Architect of the Cyberaide Shell and Web Services layer.
- Coordinator of other Masters and Undergraduate students on Grid projects and coursework.
- Includes current M.S. research and course work.

Research Assistant - Psychology Department **Jun 2007 to Sep 2008**

- Managed all computing aspects associated with a research project on how social rumors can propagate over time in the context of complex social networks.
- Upgraded and maintained current client-server experiment application in Java and developed support services in PHP and Python.

Student Lab Instructor **Jun 2005 to Sep 2006**

- Instructed labs for CS1 through CS4 courses and assisted in lectures for Professor Sean Strout.
- Provided tutoring sessions and held office hours at the Computer Science Tutoring Center.
- Designed and implemented a new CS2 project.
- Created tutorials for software programs and set up various services used by incoming students.

University of Maryland, College Park, Maryland USA

Research Assistant - The Lattice Project **Nov 2006 to May 2007**

- Worked in the Laboratory for Molecular Evolution in the Center for Bioinformatics and Computational Biology under the direction of Michael P. Cummings, PhD.

- Developer for the Lattice Project, a Grid computing resource within the Center for Bioinformatics & Computational Biology.
- Designed and implemented a common interface between the main Grid system (Globus) and the Desktop Grid server (BOINC).
- Maintained the project, desktop grid, and lab websites.

iD Tech Camps, Moraga, California USA

Lead Instructor **Jun 2006 to Aug 2006**

- Instructed Programming & Robotics, Video Game Creation (VGC) and VGC Extreme classes at St. Mary's College in California.
- Responsible for assisting the director with camp operations and managing other instructors throughout the summer.

R. K. Hite Co. Inc, Rochester, New York USA

Information Technology Employee **2003, 2006**

- Designed, built, maintained and monitored the R. K. Hite Co Inc company web site.
- Setup a secure FTP server as well as a VPN system.
- Assisted with other computer and data entry work as needed.

Publications

* **Book Chapters and Journal Articles**

[1] A. J. Younge, G. von Laszewski, L. Wang, and G. C. Fox, "Providing a Green Framework for Cloud Based Data Centers," in *The Handbook of Energy-Aware Green Computing*, I. Ahmad and S. Ranka, Eds. Chapman and Hall/CRC Press, 2011, ch. 17, in press.

[2] N. Stupak, N. DiFonzo, A. J. Younge, and C. Homan, "SOCIALSENSE: Graphical User Interface Design Considerations for Social Network Experiment Software," *Computers in Human Behavior*, vol. 26, no. 3, pp. 365–370, May 2010.

[3] L. Wang, G. von Laszewski, A. J. Younge, X. He, M. Kunze, and J. Tao, "Cloud Computing: a Perspective Study," *New Generation Computing*, vol. 28, pp. 63–69, Mar 2010. [Online]. Available: http://cyberaide.googlecode.com/svn/trunk/papers/10-cloudcomputing-NGC/vonLaszewski-10-NGC.pdf

* **Conference and Workshop Proceedings**

[4] A. J. Younge, R. Henschel, J. T. Brown, G. von Laszewski, J. Qiu, and G. C. Fox, "Analysis of Virtualization Technologies for High Performance Computing Environments," in *Proceedings of the 4th International Conference on Cloud Computing (CLOUD 2011)*. Washington, DC: IEEE, July 2011.

[5] J. Diaz, A. J. Younge, G. von Laszewski, F. Wang, and G. C. Fox, "Grappling Cloud Infrastructure Services with a Generic Image Repository," in *Proceedings of Cloud Computing and Its Applications (CCA 2011)*, Argonne, IL, Mar 2011.

[6] G. von Laszewski, G. C. Fox, F. Wang, A. J. Younge, A. Kulshrestha, and G. Pike, "Design of the FutureGrid Experiment Management Framework," in *Proceedings of Gateway Computing Environments 2010 at Supercomputing 2010*. New Orleans, LA: IEEE, Nov 2010. [Online]. Available: http://grids.ucs.indiana.edu/ptliupages/publications/vonLaszewski-10-FG-exp-GCE10.pdf

[7] A. J. Younge, G. von Laszewski, L. Wang, S. Lopez-Alarcon, and W. Carithers, "Efficient Resource Management for Cloud Computing Environments," in *Proceedings of the International Conference on Green Computing*. Chicago, IL: IEEE, Aug 2010. [Online]. Available: http://dx.doi.org/10.1109/GREENCOMP.2010.5598294

[8] N. DiFonzo, M. J. Bourgeois, J. M. Suls, C. Homan, A. J. Younge, N. Schwab, M. Frazee, S. Brougher, and K. Harter, "Network Segmentation and Group Segregation Effects on Defensive Rumor Belief Bias and Self Organization," in *Proceedings of the George Gerbner Conference on Communication, Conflict, and Aggression*, Budapest, Hungary, May 2010.

[9] G. von Laszewski, L. Wang, A. J. Younge, and X. He, "Power-Aware Scheduling of Virtual Machines in DVFS-enabled Clusters," in *Proceedings of the 2009 IEEE International Conference on Cluster Computing (Cluster 2009)*. New Orleans, LA: IEEE, Sep 2009.

[10] G. von Laszewski, A. J. Younge, X. He, K. Mahinthakumar, and L. Wang, "Experiment and Workflow Management Using Cyberaide Shell," in *Proceedings of the 4th International Workshop on Workflow Systems in e-Science (WSES 09) with 9th IEEE/ACM International Symposium on Cluster Computing and the Grid (CCGrid 09)*. IEEE, May 2009. [Online]. Available: http://cyberaide.googlecode.com/svn/trunk/papers/09-gridshell-ccgrid/vonLaszewski-ccgrid09-final.pdf

[11] L. Wang, G. von Laszewski, J. Dayal, X. He, A. J. Younge, and T. R. Furlani, "Towards Thermal Aware Workload Scheduling in a Data Center," in *Proceedings of the 10th International Symposium on Pervasive Systems, Algorithms and Networks (ISPAN2009)*, Kao-Hsiung, Taiwan, Dec 2009. [Online]. Available: http://cyberaide.googlecode.com/svn/trunk/papers/09-greenit-ispan1/vonLaszewski-ispan1.pdf

[12] G. von Laszewski, F. Wang, A. J. Younge, X. He, Z. Guo, and M. Pierce, "Cyberaide JavaScript: A JavaScript Commodity Grid Kit," in *Proceedings of the Grid Computing Environments 2007 at Supercomputing 2008*. Austin, TX: IEEE, Nov 2008. [Online]. Available: http://cyberaide.googlecode.com/svn/trunk/papers/08-javascript/vonLaszewski-08-javascript.pdf

[13] G. von Laszewski, F. Wang, A. J. Younge, Z. Guo, and M. Pierce, "JavaScript Grid Abstractions," in *Proceedings of the Grid Computing Environments 2007 at Supercomputing 2007*. Reno, NV: IEEE, Nov 2007. [Online]. Available: http://cyberaide.googlecode.com/svn/trunk/papers/07-javascript/vonLaszewski-07-javascript.pdf

* **Poster Sessions**

[14] A. J. Younge, J. T. Brown, R. Henschel, J. Qiu, and G. C. Fox, "Performance Analysis of HPC Virtualization Technologies within FutureGrid," Emerging Research at CloudCom 2010, Dec 2010.

[15] A. J. Younge, X. He, F. Wang, L. Wang, and G. von Laszewski, "Towards a Cyberaide Shell for the TeraGrid," Poster at TeraGrid Conference, Jun 2009.

[16] A. J. Younge, F. Wang, L. Wang, and G. von Laszewski, "Cyberaide Shell Prototype," Poster at ISSGC 2009, Jul 2009.

Scholarly Impact - H-Index: 5 G-Index: 9 Citations: 86

Presentations

FutureGrid, CCGrid 2011, May 2011.

ScaleMirror: A Pervasive Device to Aid Weight Analysis, ACM CHI 2011, May 2011.

Creating Research Posters, Indiana University, Apr 2011.

A Tutorial on the FutureGrid Project, CloudCom 2010, Dec 2010.

The FutureGrid Project, IU Booth at Supercomputing 2010, Nov 2010.

Efficient Resource Management for Cloud Computing Environments, IGCC, Aug 2010.

Towards a Green Framework for Cloud Data Centers, Rochester Institute of Technology, May 2010.

Towards Efficiency Enhancements in Cloud Computing, Fermi National Accelerator Laboratory , Mar 2010.

Security Threats to Mobile Devices, Rochester Institute of Technology, Feb 2010.

Overview of the NIST SHA-3 Hash Contest, Rochester Institute of Technology, Jan 2010.

Towards a Green Framework for Cloud Data Centers, Purdue University, Jan 2010.

Simple Classification Performs Well on Most Commonly Used Datasets, Rochester Institute of Technology, Dec 2009.

Power Aware Scheduling in DVFS-Enabled Clusters, IEEE Cluster, Sep 2009.

Efficient Resource Management for Cloud Computing Environments, Rochester Institute of Technology, May 2009.

Grid Deployments and Cyberinfrastructure, Rochester Institute of Technology, Dec 2008.

Introduction to BOINC, Bar Camp Rochester, Apr 2008.

Overview of the Globus Toolkit Version 4, Rochester Institute of Technology, Mar 2008.

Service

Graduate Mentor, Indiana University Research Methods I399, 2011

Editorial Board Member, Journal of Cloud Computing Advances, Systems and Applications, 2010 - 2011

Reviewer, Concurrency and Computation: Practice and Experience, 2010

Reviewer, The Journal of Supercomputing, 2010

Student Volunteer, IEEE CloudCom, 2010

Technical Expertise	Extensive experience in Distributed Systems, Networking, and Operating Systems
	Cloud/Virtualization Technologies: Amazon EC2 & S3, Google App Engine, Eucalyptus, Nimbus, OpenNebula, Hadoop Map Reduce, Twister, VMWare Infrastructure, Xen, KVM, Virtual Box
	Middleware/Grid Systems: Globus Tookit, BOINC, UNICORE, g-Lite, Condor-G, Java CoG Kit
	Local Resource Management Systems: xCAT, Moab, Condor, Torque, Maui, OpenPBS, Sun Grid Engine, LSF
Technical Skills	Programming Languages: Java, C, C++, Python, PHP, Perl, x86 Assembly Language, VHDL, Bash scripting
	Other Languages: SQL, XML, JSON, XHTML, HTML
	Software Development Tools: VI, Eclipse, Matlab, xCode, Visual Studio, Emacs, Dreamweaver
	Authoring Applications: LaTeX, Microsoft Office, OpenOffice and other common productivity packages for Linux, OS X, and Windows platforms
	Operating Systems: All GNU/Linux variants with specialization in Debian/Ubuntu, Apple OS X, Solaris, FreeBSD, Microsoft Windows XP/2000