

Richard Alimi

Software Engineer
Google

rich@velvetsea.net
<http://www.velvetsea.net/>

Education

- Yale University – New Haven, CT 8/2005 – 10/2010
- Ph.D. in Computer Science (awarded May 2011)
 - M.S. in Computer Science (awarded December 2006)
- Rensselaer Polytechnic Institute (RPI) – Troy, NY 8/2002 – 5/2005
- B.S. (*summa cum laude*): Computer Science, minors: Mathematics and Economics

Research

- Graduate Research – Yale University 9/2006 – 10/2010
Advisor: Y. Richard Yang
- *Network Management: Shadow Configurations*
 - Helps avoid human error in network configuration
 - Provides transactional capabilities for network-wide configurations
 - Implementation: support in Linux kernel, and provide associated management tools
 - *Sailor: Open Content Distribution Using Data Lockers*
 - Reduces traffic from end-to-end content distribution applications (e.g., P2P)
 - Distributed, scalable, end-to-end resource management interface
 - Implementation: storage server, including plugin for Vuze BitTorrent client
 - *P4P: Provider Portal for Network Applications*
 - Improves network efficiency of P2P applications
 - Implementation: available at <http://p4p.cs.yale.edu/> (open source)
 - *Wireless: Superposition Coding for Wireless Mesh Networks*
 - Improves mesh network capacity and efficiency
 - Implementation: GNU Radio platform (software radio)
- Undergraduate Research Program - RPI 9/2004 – 5/2005
Advisor: Petros Drineas
- Clustering of massive financial datasets
- Undergraduate Research Program - RPI 1/2004 – 5/2005
Advisor: Christopher Carothers
- Real-time detection and termination of buffer overflow attacks

Employment

- Software Engineer at Google – Mountain View, CA 10/2010 – Present
- Internship at IBM – Southbury, CT 5/2004 - 9/2010
- Developed and deployed IBM Development and Test Cloud (with Cloud Engineering and Experience team)
 - Developed tool for 3D visualization of data centers (with Tivoli Adtech team)
 - Significantly improved scalability of IBM internal Wiki deployment (with WebAhead lab)
 - Designed and implemented cross-platform Client Grid (with WebAhead lab)
- Internship at The Hartford – Hartford, CT 2/2002 - 1/2004
- Wrote software to search and analyze data across multiple sources (for Fraud Operations team)

Publications

Network Management

- *R3: Resilient Routing Reconfiguration*
Y. Wang, H. Wang, A. Mahimkar, R. Alimi, Y. Zhang, L. Qiu, Y. R. Yang, In Proceedings of ACM SIGCOMM 2010, Aug. 2010.
- *Shadow Configuration as a Network Management Primitive*
R. Alimi, Y. Wang, and Y. R. Yang, In Proceedings of ACM SIGCOMM 2008, Aug. 2008.

Network Efficiency for Internet Applications using ISP Information

- *ALTO Protocol*
R. Alimi, R. Penno, and Y. R. Yang, Internet Draft, Mar. 8, 2010.
- *ALTO Information Redistribution*
Y. Gu, R. Alimi, and R. Even, Internet Draft, Mar. 8, 2010.
- *P4P Protocol Specification*
Y. Wang, R. Alimi, D. Pasko, L. Popkin, and Y. R. Yang (with P4PWG), Internet Draft, Mar. 4, 2009.
- *P4P: Provider Portal for P2P Applications*
R. Alimi, D. Pasko, L. Popkin, Y. Wang, and Y. R. Yang, Internet Draft, Nov. 17, 2008.

Network Efficiency for Internet Applications using In-network Storage

- *DECADE Requirements*
Y. Gu, H. Song, Y. R. Yang, and R. Alimi, Internet Draft, Mar. 8, 2010.
- *A Survey of In-network Storage Systems*
R. Alimi, Z. Lu, H. Song, and Y. R. Yang, Mar. 8, 2010.
- *DECoupled Application Data Enroute (DECADE) Problem Statement*
H. Song, N. Zong, Y. R. Yang, and R. Alimi, Internet Draft, Mar. 8, 2010.

Wireless Networking

- *A General Algorithm for Interference Alignment and Cancellation in Wireless Networks*
L. E. Li, R. Alimi, D. Shen, H. Viswanathan, and Y. R. Yang, In Proceedings of IEEE INFOCOM 2010, Mar. 2010.
- *muNet: Harnessing Multiuser Capacity in Wireless Mesh Networks*
L. E. Li, R. Alimi, R. Ramjee, H. Viswanathan, and Y. R. Yang, In Proceedings of IEEE INFOCOM 2009 Mini-conference, Apr. 2009.
- *iPack: in-Network Packet Mixing for High Throughput Wireless Mesh Networks*
R. Alimi, L. E. Li, R. Ramjee, H. Viswanathan, and Y. R. Yang, In Proceedings of IEEE INFOCOM 2008, Apr. 2008.
- *Superposition Coding for Wireless Mesh Networks*
L. E. Li, R. Alimi, R. Ramjee, J. Shi, Y. Sun, H. Viswanathan, and Y. R. Yang, In Proceedings of ACM MobiCom (extended abstract), Sept. 2007.

Grid Computing

- *Computational Efficiency and Practical Implications for a Client Grid*
N. Zhou and R. Alimi, In Proceedings of High Performance Computing and Communications (HPCC) Conference, 2006, Springer Lecture Notes in Computer Science 4208, pp. 773-782.

Teaching

Teaching Fellow at Yale University – New Haven, CT

- CPSC323 - Introduction to Systems Programming and Computer Organization (Fall 2006 - 2009)
- CPSC434 - Mobile Computing and Wireless Networks (Spring 2009)
- CPSC156 - The Internet: Coevolution of Technology and Society (Spring 2007)

Undergraduate Teaching Assistant at RPI – Troy, NY

- CSCI-1200 - Computer Science II (Spring 2003 - Spring 2004)

Awards and Achievements

IBM Ph.D. Fellowship	Fall 2009 – Spring 2010
Paul A. McGloin Prize from RPI Computer Science Department	2005
• Given to an “outstanding senior in computer science”	
Graduated <i>Summa cum laude</i> from RPI	2005
Dean's List every semester at RPI	
“Outstanding Achievement and Outstanding Student in Independent Research” Award	2002
• Artificial Intelligence Independent Study at Greater Hartford Academy of Math and Science	
• Created a software program that learns to play Checkers intelligently	

Technologies

Languages

- Proficient in C, C++, Java (J2EE/WebSphere), Python, Perl, Bash, SQL, XML
- Familiar with PHP, C#, CSS, HTML, JavaScript

Operating Systems

- Linux, Windows

Proficient with rapidly learning new languages, platforms, and technologies

Activities and Interests

Ultimate frisbee (captain of RPI team Fall '04-Spring '05), skiing, basketball, and soccer