Azarias M. Reda

http://www.eecs.umich.edu/∼azarias

Overview

PhD candidate in Computer Science Engineering at the University of Michigan. My research interests include networks, systems, analysis and technology policy for emerging economies/developing regions. I have research, industry and teaching experience.

Education

Ph.D. candidate, University of Michigan, MI
Computer Science Engineering

M.Sc., University of Michigan, MI
May 2009, GPA 3.9/4.0
Computer Science Engineering

B.Sc., Sterling College, KS
Triple Major, 2006, *summa cum laude*, GPA 3.99/4.0
Computer Science
Applied Mathematics
Business Administration

Awards

Fellow, NSF Graduate Research Fellowship Program (GRFP) (2009-2012)
Rackham Merit Fellow (2008-2009)

Professional Experiance

Under my advisor, I have peer-reviewed papers for NSDI, SIGMETRICS, MobiCom, INFOCOM, and Transactions on Mobile Computing.

Peer-reviewed Publications

Tackling Vehicular Fraud in Ethiopia: from Technology to Business
Azarias Reda and Brian Noble
To appear in the the second annual Symposium on Computing for Development (ACM DEV 2012)

Social Networking in Developing Regions
Azarias Reda, Sam Shah, Mitul Tiwari, Anita Lillie and Brian Noble
To appear in the 5th International Conference on Information and Communications Technologies and Development (ICTD 2012)

Towards Improved Web Acceleration: Leveraging the Personal Web
Azarias Reda, Edward Cutrell and Brian Noble
The 5th ACM Workshop on Networked Systems for Developing Regions (NSDR 2011)

Hyke: A Low-cost Remote Attendance Tracking System for Developing Regions
Azarias Reda, Saurabh Panjwani and Edward Cutrell
The 5th ACM Workshop on Networked Systems for Developing Regions (NSDR 2011)

Robit: An Extensible Auction-based Market Platform for Challenged Environments
Azarias Reda, Quang Duong, Timur Alperovich, Brian Noble and Yidnekachew Haile
The 4th International Conference on Information and Communications Technologies and Development (ICTD 2010)

Intentional Networking: Opportunistic Exploitation of Mobile Network Diversity
Brett Higgins, Azarias Reda, Timur Alperovich, Jason Flinn, T.J. Giuli,Brian Noble and David Watson
The 16th Annual Conference on Mobile Computing and Networking (MobiCom 2010)

Distributing Private Data in Challenged Network Environments
Azarias Reda, Brian Noble and Yidnekachew Haile
The 19th International World Wide Web Conferenc (WWW 2010)

The Case for Intentional Networking
Jason Flinn, T.J. Giuli, Brett Higgins, Brian Noble, Azarias Reda, David Watson
The Tenth Workshop on Mobile Computing Systems and Applications (HotMobile 2009)

Peer-reviewed Presentations

MobLab: A Mobility Emulation Platform
Azarias Reda and Brian Noble
The 5th ACM International Workshop on Wireless Network Testbeds, Experimental Evaluation and Characterization with MobiCom 2010

Mobility and the Networking Stack
Azarias Reda and Brian Noble
The 7th Annual Microsoft Research Networking Summit (June 2010)

Moving Clouds
Brian Noble and Azarias Reda
NSF Workshop on Pervasive Computing at Scale (PeCS) 2011

Industry Experience

Search, Network and Analytics Intern 05/2011 - 08/2011
LinkedIn, Mountain View, CA

While at LinkedIn, I worked on two projects. The first was analyzing the growth, impact and characteristics of social networking in developing regions. This work is the first large scale analysis of online social networking in emerging markets, and will be published in ICTD 2012. The second was rebuilding LinkedIn's search recommendation system for related search suggestions. We use a number of signals to determine relatedness among searches conducted on LinkedIn and incorporate them into our recommendation. Related searches are pre-computed on a Hadoop MapReduce cluster, and served from LinkedIn's key-value store. I was the primary committer on the project, and it is currently live on the LinkedIn search results page. Technologies used include Hadoop, HDFS, Java, Pig and Voldemort.

Visiting Lecturer 04/2011 - 05/2011
Addis Ababa University, Ethiopia

I designed and thought a class titled 'Computing for Development: background and tools' during the spring semester. This course was given to first year graduate students in computer science, and the goal was to introduce the background and some tools necessary for conducting research in computing for development. The curriculum was designed based on examples of similar courses at the University of Washington and Carnegie Mellon Qatar.

Research Intern 01/2011 - 03/2011
Microsoft Research, Bangalore, India

I worked on two projects at Microsoft Research India. One was understanding personalized web usage in developing country contexts. This is important when thinking about web acceleration mechanisms that are designed to improve end user experience in the face of limited internet connectivity. As the next billion people come online, they are doing it on devices connected to networks with low bandwidth and high latencies which can benefit from these mechanisms. Published in NSDR 2011.

Another project I worked was designing an efficient remote attendance tracking system that works over a simple mobile phone. To accomplish this, we use voice biometrics as the underlying identity system. This is necessary for deployment in areas where only voice and SMS channels are present. Our experiments were conducted with voice data collected over the phone. The data collected and our codebase has been publicly released. Our results were published in NSDR 2011.

Teaching Fellow 01/2008 - 01/2010
The University of Michigan College of Engineering

I worked with the University of Michigan Office of Engineering Outreach and Engagement, in an NSF supported partnership with the Ypsilanti Public School District, where I have been teaching high school math classes. I worked for two years at YPSD where I helped with four math classes per week. The goal of the partnership is to motivate high school students to start looking at college opportunities in the STEM fields. More can be found at http://www.engin.umich.edu/outreach/.

Jr. Software Developer 01/2007 - 06/2007
Aristotle International, Washington DC

Aristotle is one of the primary providers of political and campaign management software. I was with them in the initial stage of the 2008 election cycle, working on state and FEC finance reporting.

Student Developer 08/2005 - 05/2006
Campus Computing, Sterling College, KS

I led the development of AttScan, the college attendance management system, still at use in Sterling College. Prior to this, I worked for the IT department technical support team where I was the first point of contact for campus computing support for over a year.

Community Service

I worked with the Engineering Outreach office in the Ypsilanti Public School District for two years in a partnership to motivate high school students to start looking at college opportunities in the STEM fields. Previously, I served a year with AmeriCorps while an undergraduate student in Kansas. I also interned with Habitat for Humanity International at their Georgia headquarters.