Nathan Jarus

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Education

December 2013 — B.S. in Computer Science, **Missouri S&T**, Rolla, MO
Minor in Mathematics | Advisor: Dr. Sriram Chellapan
Gpa: 3.7/4.0

Research Experience

Current – Jan 2012 — Software Electrostatic Discharge Detection at **Missouri S&T**
Advisor: Dr. Sahra Sedigh

Undergraduate research assistant working on detecting electrostatic discharge on embedded device peripherals. Modified linux drivers to gather hardware state information. Developed methods for analyzing state information to statistically determine if a sequence of states demonstrates electrostatic discharge.

Teaching Experience

Aug 2010 – Dec 2012 — Tutor at **Missouri S&T**
Introduction to C++

Taught programming concepts, answered questions, and provided homework guidance to students.

Research Interests

Computational Intelligence, Data Mining, Algorithm Development and Analysis, Programming Languages

Publications

2013 — **Software Instrumentation For Failure Analysis of USB Host Controller**
Antonio Sabatini, Nathan Jarus, Pratik Maheshwari, Dr. Sahra Sedigh
IEEE International Instrumentation and Measurement Technology Conference

2012 — **Old Ideas in a New Age: Descartes' Influence on Modern Animal Farming**
Nathan Jarus
Missouri S&T Undergraduate Research Conference, First place in Arts and Humanities

Work Experience

Summer 2013 | Software Development Engineer at **Amazon**, Seattle
Developed an Identity Broker service to vend temporary resource access credentials to clients based on their identity. Deployed service to production and configured monitoring and alarms.

Summer 2012 | Software Development Engineer at **Amazon**, Seattle
Deployed to production a self-service scaling web service, which reduced developer time spent on new clients. The service also predicted hardware requirements each quarter based on individual client growth estimates. Developed a MapReduce log parsing system to monitor actual service use and provide real-life scaling data for better accuracy.

Summer 2011 | Software Engineer at **Garmin International**, Kansas City
Modified the map routing algorithm to log better statistical data. Created software to analyze generated routes and determine overall fitness of routing algorithm. Developed a system to allow other engineers to easily test route algorithm changes.

Summer 2010 | Software Engineer at **Softek Solutions Inc.**, Kansas City
Developed an Android application that queried a REST web interface. Developed an Android library for future company applications.

Current Aug 2013 | Software Developer at **Lumate**, Rolla
Designed a platform to ease big data sharing between companies.

Current Jan 2010 | System Administrator at **Missouri S&T**, Rolla
Developed a FUSE filesystem wrapper to support advanced Linux filesystem operations on a network filesystem. Developed and integrated a system for real-time 3D visualization of terabyte data sets. Developed software to convert a generic dataset to a specific format for the vizualisation system. Supported research projects with both hardware and software. Administrated all on-campus linux machines. Migrated campus linux distribution from Red Hat to Ubuntu.

Scholarships and Certificates

Oct 2012 | GRE®: V:169 (99^{th} percentile); Q:168 (96^{th} percentile); W:5.0 (93^{rd} percentile)

Sept 2009 | Curators' Scholarship ($3,500)
Excellence Scholarship ($1,000)
Dean's Scholarship ($750)
Computer Science Dept. Scholarship ($250)
First Robotics Scholarship ($500)
Miner Alumni Association Scholarship ($1,250)
Bright Flight Scholarship ($2,000)

Computer Skills

Languages:	C++, Java, Perl, Python, bash, sql, flex, yacc, LaTeX
Frameworks:	Hadoop, Spring, Android, Pylons, Swing, Linux Kernel
Software:	gnu toolchain, vim, Eclipse, Visual Studio, Git, Subversion
Operating Systems:	Linux (Ubuntu, Arch, Embedded, Red Hat), Windows (7, Vista, XP)

Extracurricular Activites

Aug 2010 - May 2011 | Vice President, Missouri S&T ACM chapter

Selected Courses

Computational Intelligence:	Introduction to Neural Networks, Clustering, Reinforcement Learning, Swarm Intelligence, and other techniques.
Evolutionary Computing:	In-depth study of Evolutionary Algorithms, Multi-objective evolution, and Genetic Programming.
Analysis of Algorithms:	Applying the Master Theorem to recursive algorithms, Red-Black Trees, Max Flow, Linear Programming.
Foundations of Mathematics:	Axiomatic development of mathematical systems, developing sound mathematical arguments.
Artificial Intelligence:	Search algorithms, Heuristics, Game Trees, Partial-knowledge systems.