Nathan Jarus

Address:	1901 D Maxwell St., Rolla, MO 65401
Phone:	(314) 632-6656
Email:	nmjxv3@mst.edu
Website:	http://school.nathanjar.us

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

Oct 2012 | Gre®:
v:169 (99^{th} percentile)
q:168 (96^{th} percentile)
w:5.0 (93^{rd} percentile)

Research Interests

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

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.

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.

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.
Aug 2010- Dec 2012	Tutor at **Missouri S&T** Introduction to C++ Taught programming concepts, answered questions, and provided homework guidance to students.

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 **Software Instrumentation And ESD Detection For USB Host Controller** Antonio Sabatini, Nathan Jarus, Pratik Maheshwari, Dr. Sahra Sedigh Journal Paper currently in preparation
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

Scholarships

Sept 2009	Missouri S&T: Curators' Scholarship ($3,500, 4 years) Excellence Scholarship ($1,000, 4 years) Dean's Scholarship ($750, 1 year) Computer Science Dept. Scholarship ($250, 1 year) First Robotics Scholarship ($500, 4 years) Miner Alumni Association Silver Scholarship ($1,250, 4 years) Bright Flight Scholarship ($2,000, 5 years)
Sept 2012	Missouri S&T: Oure Scholarship ($1000, 2 years) Access Missouri Scholarship ($1100, 2 years)

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.

Data Mining	Introduction to Data Mining algorithms and techniques.
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.

Computer Skills

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

Extracurricular Activites

Aug 2010 - May 2011	Vice President, ACM, Missouri S&T chapter
Dec 2012 - May 2013	Developed algorithms for the Missouri S&T Driving Simulator