

Nathan JARUS

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EDUCATION

EXPECTED 2019	Ph.D. in COMPUTER SCIENCE, Missouri S&T , Rolla, MO Advisor: Dr. Sahra SEDIGH GPA: 4.0/4.0
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 INTERESTS

Formal Modeling, Computational Intelligence, Algorithm Development and Analysis, Programming Languages & Type Theory, Critical Infrastructure

RESEARCH EXPERIENCE

DOCTORAL JAN 2014 - PRESENT	Critical Infrastructure Modeling at Missouri S & T Advisor: Dr. Sahra SEDIGH Developing models of cyber-physical system dependability attributes.
UNDERGRADUATE JAN 2012 - DEC 2013	Software Electrostatic Discharge Detection at Missouri S&T Advisor: Dr. Sahra SEDIGH Researched 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

SPRING 2015 SEMESTER	CO-INSTRUCTOR, Digital Network Design at Missouri S&T Lectures and course coordination of an undergraduate and graduate course; with Mark WOODARD
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PROFESSIONAL EXPERIENCE

AUG 2013 - JAN 2014	Software Developer at Lumate , Rolla Designed and developed a platform to ease big data sharing between heterogeneous databases. Designed a system for mining ad click data and determining the probability that a particular user will click on a particular ad.
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JAN 2010 - DEC 2013	<p>System Administrator at Missouri S&T, Rolla</p> <p>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 visualization system. Supported research projects with both hardware and software. Administered all on-campus linux machines. Migrated campus linux distribution from Red Hat to Ubuntu.</p>
SUMMER 2013	<p>Software Development Engineer at Amazon, Seattle</p> <p>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.</p>
SUMMER 2012	<p>Software Development Engineer at Amazon, Seattle</p> <p>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.</p>
SUMMER 2011	<p>Software Engineer at Garmin International, Kansas City</p> <p>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.</p>
SUMMER 2010	<p>Software Engineer at Softek Solutions Inc., Kansas City</p> <p>Developed an Android application that queried a REST web interface. Developed an Android library for future company applications.</p>
AUG 2010- DEC 2012	<p>Tutor at Missouri S&T</p> <p>Introduction to C++</p> <p>Taught programming concepts, answered questions, and provided homework guidance to students.</p>

PUBLICATIONS

2014	<p>Analysis of Reliability and Resilience for Smart Grids Murtadha ALBRAWASI, Kamlesh JOSHI, Nathan JARUS, Dr. Sahra SEDIGH The 38th Annual International Computers, Software, & Applications Conference</p>
2013	<p>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</p> <p>Software Instrumentation And ESD Detection For USB Host Controller Antonio SABATINI, Nathan JARUS, Pratik MAHESHWARI, Dr. Sahra SEDIGH Journal Paper currently in preparation</p>
2012	<p>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</p>

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)
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SEPT 2012	Missouri S&T: OURE Scholarship (\$1000, 2 years) Access Missouri Scholarship (\$1100, 2 years)
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JAN 2014	Missouri S&T: GAANN Fellowship (5 years)
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TECHNICAL SKILLS

LANGUAGES:	C++, Java, Python, Ruby, Perl, BASH, SQL, FLEX, YACC, L ^A T _E X
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 ACTIVITIES

AUG 2010 - MAY 2011	VICE PRESIDENT, ACM, Missouri S&T chapter
DEC 2012 - MAY 2013	Developed algorithms for the Missouri S&T Driving Simulator