Allan Jacobs

Senior Backend Engineer

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Summary

I have a strong interest and background in data analysis and display. This background is in applications for web security and scientific data processing. I am a versatile senior software engineer and team lead with many years of experience.   I have a proven history of managing all stages of the software development life cycle, with a talent for guiding cross-functional teams in achieving key milestones and cooperating to overcome obstacles. I am adept at coordinating software implementation and delivering post-implementation support. Specialties: data science, machine learning, J2EE backends, Scala, and statistics.

Experience

Staff Engineer at Layer Eight Security

February 2014 - Present (1 year 5 months)

  Developed a product that intercepts web traffic, analyzes it for security breaches, and actively blocks attackers.   * The product took in roughly 1.5 million hits and 250 thousand sessions per day. It should scale much higher. * 2000 to 20,000 sessions per day identified as threats. Blocking threats significantly slows the rate, so the wide variation is a good thing. * Data design provided for a Cassandra database that stores the hit, session, and threat traffic. * MySQL data design provided for a digest of the data stored in Cassandra. * Bot detection automated using headers and behavioral signatures. Coding in Python. * Designed and developed the next release of the data analysis servers. Coding in Scala. * Site management on AWS for four production data processing servers, the MySQL database, and all the machines of a Cassandra cluster. * Site management of a parallel set of data processing servers for development and test purposes.

Staff Engineer at Sony Network Entertainment Inc

April 2012 - February 2014 (1 year 11 months)

  Worked on extensions to a JavaScript test engine used to test on Playstations. Designed and wrote a substantial fraction of the automated tests for the Sony web storefront and the PS4 product rollout.

Sr Integration Engineer at Yahoo!

May 2010 - February 2012 (1 year 10 months)

  Tested and diagnosed problems in new releases of the Yahoo! APT (Advertising Products Group) pipeline. The diagnoses used logs, perl scripts, MySQL database queries, and peeks into a Hadoop database.

Founder at Verde Strada

October 2009 - May 2010 (8 months)

Started a new company to provide multi-tenant identity management in the cloud. Sun's identity manager was customized for this purpose. The coding was finished and I did a quick look at the market before resuming the quest for funding. A that time, the market was judged too crowded to pursue the product further. The company is still registered. I have used to take in consultant fees, most recently with Layered Eight Security. It owns a small amount of intellectual property that I declare when taking positions at other companies.

Principal Member of Technical Staff at Oracle
November 2007 - October 2009 (2 years)

Quality assurance work for identity management and role management products. Performance testing of the role manager were instrumental in management's repositioning of the role manager product within Oracle's suite of business products. Specification review for a business intelligence product.

Software Developer at SearchForce
January 2007 - October 2007 (10 months)

Coordinated development and implementation of the back end architecture for a web-based bid management system. Ensured proper interface and integration with the Flex-driven front end. Identified, troubleshot, and eliminated numerous major bugs with the legacy JSP front end.

Staff Engineer at Sun Microsystems Inc
1996 - October 2006 (10 years)

Architecture, leadership, and quality assurance software for the Solaris, Java, and J2EE divisions. * Software architect for the Java Enterprise System installer. The bug count was reduced from the out-of-control 1000s to the manageable small 100s. * Tech Lead for Java Enterprise System. * Tech Lead for Java Software QA Tools Group. This was group of 4-5 engineers and one manager that I founded to maintain and develop test tools for use in the Java Software division. We supplied the main test platform for the core of Java, developed a test harness used in a substantial fraction of J2EE, tracked the hardware used by the Java division, logged the test results from most of the Java and J2EE tests. We provided a platform that allowed Sun to analyze test results so as to minimize the cost of respins of the Java platform. * Lead QA for Java on Solaris. Java on Solaris was a critical product at the time for Sun.

Staff Engineer at Applied Parallel Research
1992 - 1995 (3 years)

Developed a parallel Fortran library, the runtime library for a IDE that parallelized serial Fortran code. * Invented the number theory solution that enabled cyclic decomposition of data. This must have been reinvented at Portland Group and was certainly reinvented at Sun Microsystems. * Implemented data exchange algorithms, including those for reduction functions (think Hadoop). * Developed an interface to enable the debugging of parallel programs on Unix systems. * Developer parallel performance tool. * Developed a parallel I/O library for use on IBM workstation clusters.

Physicist at Pacific Sierra Research

1988 - 1992 (4 years)

Worked on super computer and various defense industry problems. * Development of parallel supercomputing compiler software that was spun off to Applied Parallel Research. * Anti-submarine warfare software innovation, design, and development. Conceived and developed the software that provided the first light images of submerged submarines (in the free world). * Electromagnetic pulse modeling using integral equations. EMPs are a side effect of nuclear explosions.

Staff Geophysicist at   Chevron, USA

1984 - 1988 (4 years)

Researched new methods and architectures for large-scale seismic processing systems. * Research and development of a method to suppress multiple reflections. * R&D of wave equation migration.

Certifications

Intro to Data Science

Udacity   September 2009

Data Wrangling with MongoDB

Udacity   September 2009

Data Analysis with R

Udacity   September 2009

Functional Programming Principles in Scala

Coursera Verified Certificates   License JNZJZ85ZP3   June 2014

Intro to Machine Learning

Udacity   September 2009

Data Visualization and D3.js

Udacity   September 2009

Installing and configuring Cassandra

DataStax   License 8qNLB6Rq   May 2015

Understanding the Cassandra architecture

DataStax   License 8qNLB6cG   May 2015

Learning the Cassandra write path

DataStax   License 8qNLB6Rc   May 2015

Learning the Cassandra read path

DataStax   License 8qNLB6M6   May 2015

Introducing the Cassandra Query Language (CQL)

DataStax   License 8qNLB6dj   May 2015

Education

Stanford University

Ph.D., Geophysics, 1980 - 1984

Activities and Societies: Boy Scouts of America

Massachusetts Institute of Technology

B.S., Physics, 1976 - 1980

Activities and Societies: A student newspaper, now defunct, called Thursday.

Skills & Expertise

Perl
Java
Java Enterprise Edition
Integration
Databases
SDLC
Unix
Linux
Solaris
Web Applications
Agile Methodologies
Enterprise Software
Software Development
Architectures
XML
Cassandra
MySQL
Software Engineering
Business Intelligence
SaaS
JSP
JavaScript
Algorithms
Data Processing
Geophysical Data Processing
Seismic Imaging
Algorithm Development
Scala
Python
R
D3.js
MongoDB
Team Leadership
Software Documentation
Communication

Patents

Same Virtual Machine Mode for Distributed Test Execution

United States Patent 6839647   Issued January 4, 2005

Inventors: Allan Jacobs, Alexei Volkov

The patent describes an architecture for testing distributed applications. The designed was intended for testing J2EE. It was and may still be used in a significant fraction of J2EE's components. The architecture used an emulation of Bourne shell with some extensions for testing and written in Java (for portability). The test software uses a regular set of sockets on each server (to communicate shell commands, timeout requests, and out of band exception returns).

Projects

Unified Event Model

January 2008 to December 2008

Members:Allan Jacobs, Tavs Dokkedahl

UEM is a JavaScript library that makes all browsers, including IE (at the time IE6), comply with the W3C event model standard (http://www.w3.org/TR/2013/WD-DOM-Level-3-Events-20131105/#keys). Its URL is at https://github.com/system4t . Spin-offs from this work went into fixing Mozilla keyboard events and specifying the same for Webkit. URL: https://bugzilla.mozilla.org/show_bug.cgi?id=447757 .

Languages

English

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Linked in.

2 person has recommended Allan

"I respect Allan for the commitment and responsibility he has towards our project and also love to work with him if possible.His availability is 24X7 for our project and we all remember him through his bugupdates.we miss you Allan."

— **Kathick D**, worked indirectly for Allan

"Great Programmer and Gem of an analyst. He is an asset to any group he works for."

— **Murali Nandigama, Ph.D.**, worked with Allan

Contact Allan on LinkedIn