

TREVOR ALAN ROBINSON

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SUMMARY

Results-oriented software and DevOps architect and engineer with over 20 years of professional experience and a consistent track record of innovation, quality, and mentoring. Responsible for many complex projects in numerous domains. Most recent work has been in cloud computing, distributed systems, deployment automation, and software development in Java and Javascript (ES2017).

PROFESSIONAL EXPERIENCE

AFFINIPAY, Austin, TX

Mar 2016 – Jul 2018

Software Architect, Manager, Lead Developer

- Primary focus on DevOps, including automated provisioning with Terraform, deployment with Ansible, message bus with Kafka, and containerization with Docker and Kubernetes.
- Owned several development projects, including a prototype React UI, Node.js back-end REST microservices, and Node.js system-level testing infrastructure for Java services.

INDEED, INC., Austin, TX

Jan 2014 – Sep 2015

Senior Software Engineer, Kegmaster

- Designed, implemented, and deployed publish/subscribe messaging infrastructure providing high-throughput, exactly-once message delivery across numerous data centers worldwide.
- Designed and documented system based on publish/subscribe messaging for processing sponsored job clicks in real time to avoid displaying unbillable (e.g. out of budget) ads.

CALXEDA, INC., Austin, TX (company closed)

Mar 2011 – Dec 2013

Lead Applications Architect

- Member of solutions team designing scale-out software solutions to run on Calxeda's low-power ARM-based servers. Target applications included Memcached, Ceph, Hadoop, and Cassandra.
- Furthered the ARM software ecosystem by porting, benchmarking, and tuning open-source software and assisting closed-source/open-core ISVs in their ARM ports.
- Developed a distributed application benchmarking system in Java and Python for defining, scheduling, deploying, monitoring, and archiving application runs across a cluster.
- Responsible for design and implementation of a C/C++, cross-platform distributed systems framework aimed at improving the performance and scalability of distributed software.

DRILLING INFO, Austin, TX (via acquisition of HPDI in Nov 2009)

Mar 2009 – Mar 2011

Senior Software Architect

- Senior member of architecture team, responsible for integrating and refactoring legacy systems as well as providing architectural guidance and requirements for new projects.
- Designed and implemented a SQL-compatible database engine (C++) optimized for interactive ad hoc querying and aggregation of time series data (consisting of billions of samples).

GOOGLE, INC., Austin, TX (office closed)

Sep 2008 – Mar 2009

Software Engineer

- Part of the Google Sites team, focusing on new structured data and page template features, which consisted of server-side Java and JavaScript and client-side JavaScript and HTML/CSS.
- Created Google Visualization API data source component for structured search data.

MICROSOFT CORPORATION, Redmond, WA

Dec 2005 – Sep 2008

Senior Software Development Engineer, Live Platform Services

- Responsible for the design and implementation of the secure peer-to-peer communications stack (C#) in the Live Mesh rich client.
- Contributed to the design of the Live Mesh communications cloud services.
- Produced the Live Mesh team C# coding guidelines document and advocated C# best practices.
- Owned the development of the ASP.Net (C#) web service for Windows Live Drive, which provided remote PC file search, browse, and download over the Internet.
- Created or contributed to internal dev tools, such as a virtual address space visualization tool.

CESURA, INC., Austin, TX (now defunct)

Jul 2005 – Nov 2005

Server Software Engineer

- Part of the Java server team, implementing usage pattern analysis, problem detection, and probable cause analysis for the Cesura application service level management appliance.

NEWISYS, INC. / SANMINA-SCI, Austin, TX

Jul 2001 – Jul 2005

Lead Software Architect, Design Verification

- Solely responsible for design simulation and verification infrastructure for 5+ million gate coherent HyperTransport (HT) router ASIC, used to build 32-way AMD Opteron systems.
- Architected and implemented a significant portion of the 250,000-line Vera code base, including bus functional model of K8 CPU, protocol stacks for HT and Infiniband-based serial links, and global protocol checker for extended HT protocol.
- Led team to migrate code base from Vera to Java, including the development and open-source release of Jove (The Open Verification Environment for the Java Platform) <<http://jove.sf.net>> and Juno (OpenVera to Jove Source Code Translator) <<http://juno-xlat.sf.net>>.
- Developed Java/Swing HT packet visualization tool, used daily by design and verification teams.
- Developed XML-driven regression testing tool used for pre-commit and nightly regression tests.
- Implemented regression job submission, tracking, and reporting front-end to Grid Engine simulation farm using Perl and MySQL.

PERVASIVE SOFTWARE, Austin, TX

Jan 2000 – Jun 2001

Software Engineer

- Developed extensive cross-platform, COM-based C++ class framework similar to Java API, which provided polymorphic, binary-reusable strings, streams, collections, etc.
- Developed complete C/C++ portability library for Win9X, WinNT, Linux, Solaris, and Netware, which included abstractions for threads, synchronization, files, IPC, COM, etc.
- Spearheaded a build system reengineering initiative by developing a cross-platform component make system, simplifying the build process and reducing development time.
- Jumpstarted Internet development support for Pervasive.SQL 2000i by designing and implementing a highly concurrent, pure Java JDBC 2.0 driver.
- Implemented a complete XPath query engine in Java as a basis for XML query research.
- Wrote extensive internal documentation for libraries, systems, and processes.
- Mentored co-workers on advanced object-oriented design in C++ and Java.

HYDROCARBON PRODUCTION DATA (HPDI), LLC, Austin, TX

Jun 1996 – Dec 1999

Lead Software Developer, Database Administrator, Webmaster

Designed and implemented software solutions for end-user applications and internal data processing systems, while also maintaining database servers and company web site.

- Designed and implemented extensive Delphi component framework used to build custom front-end applications for all HPDI database products (now called “DI Desktop”), which

consistently elicit customer praise as the most user-friendly and feature-rich software in the industry.

- Automated the tracking of maintenance and distribution of all company products by developing an internal client/server application in Delphi, greatly increasing production capacity and eliminating late shipments.
- Developed database-driven Web applications using Java (servlets and JDBC), PHP3, Linux, Apache, and MySQL.
- Co-designed extensive common data model encompassing all petroleum production, transportation, and marketing information gathered by HPDI.
- Configured Oracle database server on Windows NT and wrote extensive PL/SQL scripts for processing of raw data into common data model.
- Supervised and trained both full-time employees and part-time students in software development, maintenance, and distribution.

MICROSOFT CORPORATION, Redmond, WA

Jun – Aug 1999

Software Developer – Summer Intern, Internet Explorer Team

- Responsible for refactoring core Win2K shell COM components into static libraries to allow MSN Explorer to run on pre-Win2K operating systems.
- Coordinated with JavaScript/DHTML team to develop C++ COM components used by the MSN Explorer GUI.

ACCELERIX, INC., Austin, TX (acquired by MOSAID)

Jan – May 1999

Software Developer – Spring Intern

- Designed and implemented DirectX 6 hardware test tool and GDI driver debugging tool for 2D/3D graphics accelerator chip using VC++ and MFC.

S3, INC., Austin, TX

Jun – Aug 1998

Software Developer – Summer Intern

- Co-developed DirectX 6 support for Savage3D Win9X driver.
- Modified driver code and project files to support building with Intel Vtune C/C++ compiler for performance comparisons.
- Worked with QA to identify and fix bugs found in DX5 & DX6 driver.
- Gained experience with Direct3D and DirectDraw SDK/DDK, 3D transformation & lighting, triangle rasterization, and hardware rasterizer optimization techniques.

UNIVERSITY OF TEXAS OF THE PERMIAN BASIN (CEED), Midland, TX Jun 1994 – Jun 1996

System Administrator, Software Developer

- Developed and maintained on-line bulletin board system for several industry organizations.
- Updated and maintained a multi-gigabyte on-line database containing oil and gas production and well information.
- Developed several custom add-on modules for on-line system utilizing C and Btrieve.
- Wrote many DOS/Windows utility programs such as software installers, script compilers, and graphics viewers/converters.

ARCANE TECHNOLOGIES, Midland, TX

Jan 1991 – May 1994

Co-founder, DOS shareware/freeware development

- Developed shareware SoundBlaster programming library, including DMA-driven DAC/ADC, FM and software wave-table synthesis, text-to-speech, and MIDI.
- Developed complete modem communications package, consisting of 25,000 lines of Pascal.

SELECTED OPEN SOURCE PROJECTS

React Bootstrap Autosuggest <https://affinipay.github.io/react-bootstrap-autosuggest>
virtsecgroup: Virtual AWS security groups for Terraform <https://github.com/affinipay/virtsecgroup>
Vss2Git: Migrate Visual SourceSafe repositories to Git <https://github.com/trevorr/vss2git>
Circe: A High-Performance Hash Algorithm Framework & Library <https://github.com/trevorr/circe>
Jove: Open Verification Platform for the Java™ Platform <https://github.com/trevorr/jove>
Juno: OpenVera™ to Jove Source Code Translator <https://github.com/trevorr/juno>
uritemplate: Java implementation of [RFC 6570](#): URI Templates <https://github.com/trevorr/uritemplate>

EDUCATION

BSEE – Computer Engineering, University of Texas, Austin, TX
Magna Cum Laude (3.9 GPA)
Senior Project: Network Intrusion Detection System (Perl on Linux)