

# TREVOR ALAN ROBINSON

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## SUMMARY

Software architect with over 20 years of commercial experience and a consistent track record of innovation, quality, and mentoring. Responsible for many complex projects in numerous areas (databases, messaging, compiler front-ends, ASIC verification, communications, digital audio). Specialize in Java, C++, C#/Net, storage/database, messaging/networking, and LL/LR parsing technologies, but have in-depth experience with many others.

## PROFESSIONAL EXPERIENCE

**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**

**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](https://tools.ietf.org/html/rfc6570): 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)