

Kenneth J. Stauffer

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Senior Software Engineer

I am a software developer with over twenty years of experience. I am seeking a new programming position with a company for whom my skills will be valuable.

My background includes the development of many complete C/C++ applications including, design, implementation and documentation. I have developed high performance back-end servers as well as rich graphic intensive applications. I have worked with many databases and have an in-depth understanding of the SQL language. I have experience using object oriented techniques such as inheritance, templates, and design by contract. One of my technical specialties is language design and compiler writing. I have written software for the Oil & Gas, Biotech and Education Administration industries.

WORK EXPERIENCE

WSFDB Consulting, Senior Software Engineer

Feb. 2010 – Present

Austin, Texas

- Developing a C compiler for a new CPU architecture.
- Modifying a popular open source C compiler to target a new instruction set. (LCC, a retargetable compiler for ANSI C).
- Using Eclipse C/C++ development IDE on Windows and Linux.
- Developing algorithms for stack scheduling of temporaries and flow graph analysis.

XSPRADA Corp., Senior Software Engineer

Feb. 2008 – Jan. 2010

Austin, Texas

- Developed a SQL translator using C/C++ and a third party parser generator called ProGrammar.
- Added extensions to the SQL language for temporal queries.
- Implemented algorithms to optimize SQL sub-query expressions into a series of flattened JOIN operations.
- Attended math classes on Set Theory and Abstract Algebra from XSPRADA's Principal Mathematician.
- Implemented a parser for a proprietary database control language. GNU Bison was used.
- Implemented math operations for Intel Decimal64 encoded values.
- Implemented finite state machines for parsing ASCII formatted values. This included parsing Dates, Times and Floating Point values. Required to detect all overflow/underflow conditions.
- Used the boost C++ libraries to implement Date/Time math operations.
- Interfaced product with a third-party license manager called Reprise License Manager.

- Modified the main product to run as a Windows service.
- Implemented a validation tool for finding data errors in large CSV (Comma Separated Values) files.
- Implemented a tool to automatically generate HTML documentation from a database containing a matrix of operations and data types. This tool was written using Perl and SQL Lite.
- Developed several scalable database operations designed to run on multi-core/multi-disk systems. These operations used threads extensively and were able to process data sets greater than 1TB.
- Ran extensive benchmark tests using large data sets (up to 1TB). Did comparative tests with SQL SERVER and other database products. The TPC Benchmark (TPC-H) was one of the benchmarks used.
- Developed a regression test program for ensuring SQL translations matched the expected output.
- Worked closely with the documentation department to externalize and improve SQL error messages.
- Gained experience with Compuware profiling and bounds checking tools.

Relativity Technologies, Software Consultant

Jan. 2004 – Dec. 2007

Austin, Texas

- Developed an OpenROAD plug-in for Relativity's Modernization Workbench product. This was used to analyze the call graph for OpenROAD programs and also calculate software metrics. (OpenROAD is a high-level programming language from Ingres).
- Developed a parser for IBM's RPG language. This became another plug-in for the Workbench product. It was written in C++ and Yacc using Windows Visual Studio.

Golden Helix Inc., Software Consultant

Jul. 2004 – Oct. 2005

Austin, Texas

- Wrote a parser for the SMILES language (Simplified Molecular Input Line Entry Specification). This library was written in C++ and Yacc using Visual Studio.

BAE Systems, Software Consultant

May 2001 – May 2002

Austin, Texas

- Developed a translator to convert a legacy programming language into Visual Basic. The GUI application allowed users to load projects in a tree view and activate/deactivate various translation options. It was written in object oriented Eiffel and Microsoft Foundation Classes.

Informatica Corp., Senior Software Developer

Feb. 1999 – Feb. 2001

Palo Alto, California

- Developed module for interfacing main product with IBM's MQ Series.
- Developed module for interfacing the main product with SAP.
- Ported entire product to work with a new C++ compiler and platform (HPUX).
- Internationalized product using Unicode string libraries to replace STL strings. Externalized all error messages.
- Used STL container classes extensively.
- Was trained on how to use Informatica's Power Center product(s).

Hewlett Packard, Software Consultant

Oct. 1997 – Feb. 1999

Mountain View, California

- Developed a C/C++ application for validating Hewlett Packard sales orders. Designed a business rule specification language and a byte-code compiler.
- Developed a translator for converting OpenROAD programs into Visual Basic. This tool reduced the time needed to port a large order entry system, by allowing all the legacy source code to be converted to the target language.

Nextron Communications Inc., Senior Software Developer

Oct. 1996 – Oct. 1997

San Jose, California

- I was the primary developer for the "Easy Site Web Development Workbook" product. This product was a template-based website builder for online customers and Office Depot workbooks. Was implemented using a combination of C, Oracle, and Perl.
- I managed a three person team of developers.

MCI, Software Consultant

Sep. 1995 – Oct. 1996

San Jose, California

- Involved with a large C++ project for MCI's call processing. Was responsible for the customer taxation component.

Photon Systems Ltd., Senior Software Developer

Nov. 1991 – Aug. 1995

Calgary, Alberta

- Developed a reusable library for parsing math expressions. Written in C.
- Designed and implemented a self describing file format for expressing scientific data efficiently in ASCII.
- Primary developer for the 'xsection' application, a highly graphical and interactive application for geologists to view cross sections. This application was written in C and used Microsoft Foundation Classes.
- Developed the 'mapplot' application. This was a 2D mapping program for navigating a large database of geological well data.
- Developed reusable library for converting between Latitude/Longitude coordinates and UTM coordinates.
- Developed a hypertext help system using Motif/X.
- Developed an electronic data delivery system for the exchange of large well data files between customers. Written using a combination of shell scripts and UUCP (Unix to Unix copy).

University of Calgary, System Administrator

Aug. 1990 – Nov. 1991

Calgary, Alberta

- System Administrator for a large network of Unix workstations and VT100 terminals. Maintained Sun and Vax 11/780 servers.

- Developed a special Line Printer Daemon for handling the printing needs of the computer science department. (C, Unix).
- Ported a C++ compiler (Cfront) to work on the SGI platform.

EDUCATION

Computer Science, B.Sc, University of Calgary, 1990