

## Stacy D. Doss

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### Professional Overview

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With over 25 years of experience in the software industry and over 16 years in the semiconductor industry, I have developed a broad range of skills. Over the course of my career I have served the roles of architect, engineer, developer, maintainer, and quality assurance. I have focused on semiconductor challenges including but not limited to: product engineering (post silicon), design flow, physical design (synthesis to tape-out), EDA tool development (timing closure, parasitic extraction, place-and-route, and design for manufacturing) and industry standards (IEEE and OpenAccess). Other projects I have been responsible for include: data warehousing (MySQL/Oracle/MS SQL), web based delivery systems (HTML, PHP, XML, JSON, JavaScript), source code control and defect tracking (CVS, SVN, TFS, Bugzilla), automated help systems, embedded real time systems, and operating system design. I work well both in an individual role or a team, locally or remotely. I have special interest in open source software, parsers, compilers, user interfaces, API's, and artificial intelligence methodologies. I am a results driven problem solver dedicated to delivering customizable, easily maintainable and thoroughly tested solutions.

### Skills Inventory

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#### Languages:

**Expert**    C/C++, Perl, SQL

**Skilled**    Java, JavaScript, HTML, PHP, XML, Python, TCL, VisualBasic, COBOL, Pascal, R, XSLT, Verilog, VHDL

**Familiar**    Assembly, Fortran, Lisp, C#, .NET, Ruby, Groovy, Objective-C, LaTeX, REXX, DCL

#### Operating Systems:

Linux, Windows and OS/2, others

#### Other Skills:

In depth knowledge of many semiconductor standards such as OpenAccess, Liberty, LEF, DEF, SPEF, GDSII and Verilog, among others. Practice and use of various software engineer practices such as agile methodology, feature driven development, test driven development, eXtream programming, UML, MVC, standard libraries/packages, design patterns, and bug/defect tracking. Software engineering tools include: bash, make, Eclipse, Visual Studio, ant, Maven, Camel, ServiceMix, svn, TFS, Bugzilla, Office, Tcl/Tk, stl, boost, and qt. Quickly adapting to the tool-set at hand to produce quality results.

## Experience

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### **AMD – Software Engineer/Contract** *January 2011 to present*

Primary environment Linux, secondary Windows. Responsibilities included the architecture and development of ETL flows for various test stages of CPU, GPU and APU product lines. This included both highly flexible custom parsers written in perl and database design and implementation using MySQL. Develop highly customizable back-end applications with perl and R to visualize various trends in the manufacturing process, including WET and wafer sort. Provide client access to customization of both data collection techniques and trend visualization through a web interface using PHP, JSON, Javascript and HTML. Develop alternate data sets using MySQL for targeted reporting capabilities. Develop managed file transfer work flows to route data to internal and external consumers using Java, Apache ServiceMix, Camel, ActiveMQ with Eclipse, Ant and Maven.

### **Self** *May 2010 to January 2011*

Developing Open Source EDA parsers in a variety of build models using C++, flex and bison. Currently completed coding of a Liberty parser. This parser leverages STL to maintain the Liberty information model. The parser is syntactic. This provides direct compatibility for any Liberty extensions both present and future, as well as, direct access of user defined attributes and groups.

### **Si2 (Silicon Integration Initiative) – Austin, TX – Sr. Software Engineer** *2006 to 2010*

Primary environment Linux, secondary Windows. Integration engineer for the Open Modeling Coalition (OMC). Architected, designed and implemented Open Model Calculation Interface (OMCI) using C++, OpenAccess, Liberty, DCL and various perl and tcl scripts. OMCI is an open API for electrical model and design information. Specializations were developed for OpenAccess (OA), Liberty, ECSM, CCS and DCM. Participated as editor for IEEE 1481 version 2 which was adopted as an official IEEE standard in 2009. Used perl and XML for large scale document changes.

### **Pyxis Technology – Austin, TX – Member of Technical Staff** *2004 to 2006*

Primary environment Linux, secondary Solaris. Main product was a rule based router using OpenAccess as the primary design database and C++ as an implementation language. As CAD/EDA software engineer designed and implemented interfaces for LEF, DEF, Spef, Oasis (GDSII), and Verilog. Designed and implemented RC extraction and timing engines. Designed and implemented centralized help system for interactive, HTML (with XML, XSLT and Javascript) and print documentation with source code generation. As product engineer, defined tool features, command set and user interface. Developed regression test for both unit and functional. Maintained Bugzilla bug tracking system for project management.

### **Hifn – Los Gatos, CA – Senior CAD Engineer** *2000 to 2004*

Primary environment UNIX, secondary WinNT. Developed mission critical toolset for ASIC frontend and backend design. Used a combination of self developed perl applications, tcl and vendor specific scripting languages. Solved such problems as Verilog assign removal, automated timing closure, repeater insertion, and global edge rate improvement. Developed

and implemented methodology for design flow including but not limited to floor planning, place and route (P&R), clock tree generation (CTS), in place optimization (IPO), RC extraction, delay calculation, design rule check (DRC), timing closure, signal integrity analysis (SI), engineering change orders (ECO) and logic equivalency checks (LEC). Design flow included such tools as PKS, Encounter, QX Fire & Ice, NanoRoute, Vendor Tools, Primetime, CeltIC, various vendor tools, and in house tools (COT). Developed methodology flow for design library creation and maintenance. Developed and implemented configuration and flow management tools for several different areas of the design process. Produced department wide programming practices including documentation, library use, design review, implementation procedures and qualification. Provided various application specific support tools and parsers, including Gate level verilog, DEF, LEF, Synopsys timing libraries, SDF and SPEF among others. Developed intranet web reporting and applications, such as, company wide Signoff Checklist and design flow checkpointing; using DHTML, JavaScript and DOM. Worked in a remote environment (TX) via telecommuting (CA).

**Advanced Micro Devices (AMD) - Austin, TX - Product Engineer 1997 to 2000**

Primary environment Unix, secondary WinNT. Software lead for Product CAD group. Design and implementation of various software tools in support of debug, fault isolation, and production for current generation processors. Research and development of enhanced ATPG flow control, including non-destructive pattern generation for non-observable state points. Designed and implemented software infrastructure for Product CAD group. Developed both CAD and Engineering adaptable toolsets using perl, tcl, vendor and internal scripting languages. Integrated both internal and external software tools and data sets for Product group. Integrated various test equipment such as IMS-FT and Teradyne 971/973 with debug and failure analysis processes. Led effort to establish specific cross product Product CAD team in order to more effectively use resources and existing code bases.

**Optima Systems, Inc. - College Station, TX - Software Engineer/Designer 1994 to 1997**

Primary environment Windows NT. DCOM (Distributed Common Object Model) development (OLE), ActiveX development. Cross platform development with WinNT, Win95 and Win3.1. Developed WinNT interface for embedded flow meter control in C++. Developed WinNT based embedded software for electrical testing equipment, Developed SQL based support program for WinNT commercial application both using MSVC and related tools. Other miscellaneous programming and implementation task, mostly in WinNT.

**PVI, Inc - College Station, TX - Web Programmer 1995 to 1996**

Primary environment HTML/CGI. Developed and maintained various client World Wide Web sites, including server side scripting.

**Texas A&M University - College Station, TX – Programmer 1994 to 1996**

Primary environment Windows 3.x. Developed MS Windows application utilizing a digital I/O board for use in the Electrical Engineering curriculum. Miscellaneous other programming task. Developed Department of Electrical Engineering World Wide Web Site.

**Creative Computer Services - Marshall, TX - Owner/Consultant 1992 to 1994**

Primary environment Windows 3.x. Designed and implemented various application systems for client companies, some were commercially marketed. Performed individual and group

seminars.

**DCS, Inc. - Dallas, TX - PC Senior Design Engineer 1991**

Primary environment AIX - OS/400. Ported various AS/400 applications to PC and RS-6000 platforms. Ported PK-Ware's ARC application to AS/400. Developed and implemented client network solutions.

**Andersen Consulting - Irving, TX - Senior System Analyst 1989 to 1990**

Primary environment OS/2. Coordinated programming staff efforts, including training, program analysis, design specifications, standards and practices. Served as technical liaison to various IBM development shops and IBM project management. Primarily responsible for interactive training modules for OS/2 operating system.

**Education**

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**Texas A&M University**

Computer Science, B.S. May 1998.

GPA 3.7