

# Charles Stanhope

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## Professional Ambition

*Do meaningful work, create and innovate, challenge myself, learn something new everyday, earn a living, and have fun*

## Skills and Knowledge

- **Languages** - *Proficient*: C, C++, and AWK. *Novice*: Python, C#, bash, cmd. *Intrigued by*: Rust, OCaml, and Haskell
- **Development Tools** - MS Visual Studio, Code Composer, gcc, make files, command line, some emacs and vim
- **Build and Test** - Jenkins, Python unit tests, gtest unit tests, and custom regression tests
- **Low Level Work** - Assembly languages (e.g. 80x86, 680x0/Coldfire, PowerPC, ARM), PLD/FPGA logic design (VHDL, Verilog, Altera, and Xilinx)
- **Other** - Writing documentation, managing schedules, troubleshooting, quickly learning and adopting new technologies, interfacing with customers
- **Environments** - Windows (Win32/MFC/.NET, Windows Forms), Unix (e.g. Linux, Mac, and BSD), Embedded (bare metal, DSP/BIOS, RTOS), multithreaded in all these environments
- **Source Code Management** - CVS, SVN, Mercurial, fossil, and some Git
- **Networking** - TCP/IP, UDP using sockets as well as other libraries, and some HTTP
- **Light system administration** - Apache, subversion, Trac, sshd, lxc, libvirt, Vagrant, etc.
- **Special** - Prolific doodler experienced with pen and pencil and a wide variety of papers

## Work Experience

**Software Engineer**, Fiber SenSys, Hillsboro, OR  
July, 2010 through present

- Bringing up a next gen product platform based on a Freescale i.MX6 running Linux
- Designing and implementing improved FPGA design for next generation platform
- Maintaining and improved existing legacy applications and product firmware based on C28xx processors
- Developed communication libraries for heterogeneous, multiprocessor system utilizing Google Protocol Buffers that allowed seamless communication between TI C6474 (**DSP/BIOS** and **C/C++**), embedded Linux machine (**Posix C/C++**), and PC (**Windows C#**)
- Developed tools for booting TI C6474 EVM (multi-core and multiprocessor) over Ethernet
- Used **subversion** and **mercurial** for source code control
- Light system administration duties with Ubuntu **Linux** server running Apache, Subversion, Trac, sshd, lxc, Vagrant, libvirt, custom web applications etc.

**Independent Contractor**, Optical Engines  
2009 through 2010

- Developed motion control application for experiments in fiber tapering using **Visual Basic .NET**
- Utilized **fossil** for software version control and issue tracking

**Software Engineer**, InPhase Technologies, Longmont, CO

April, 2001 through June, 2008

- Developed and documented software used by engineers to perform holographic storage research (C/C++/MFC/AWK/Misc.)
- Worked closely with research engineers to define requirements and achieve milestones
- Developed and documented Simple Programming Language (*SPL*) for automating experiments
- Developed real-time software ( $\mu$ C/OS-II) for Coldfire based embedded system
- Developed logic for CPLDs and FPGAs (**VHDL**)
- Developed macro assembler (*HASM*) for use with a custom processor used in drive channel
- Backup system administrator and liaison between IT and the research and engineering groups

**Game Programmer**, Vicarious Visions, Troy NY

February, 2000 through September, 2000

- Project lead for Gameboy Color game (**Blues Clues**)
- Designed and implemented game engine for *Blues Clues* that allowed for "large" screen animations (C/assembly)
- Created and maintained development tools for programmers and artists (C/C++/MFC)

**Software Development Engineer**, Eberline Instruments, Santa Fe NM

August, 1998 through May, 1999

- Created a multithreaded UDP networking library for MS Windows (C) and developed other software (MFC)
- Devised new embedded software for custom board designs (**80C51/C/assembly**)

**Engineer**, Access Dynamics, Albuquerque NM

May, 1996 through March, 1998

Summer and winter breaks, 1994 through 1996

- Designed, maintained, and documented *Framework*, a product which supported the development of custom embedded software for 68340 and PowerPC based VME boards (C/assembly)
- Worked with customers to define specifications, solve problems, test, and update software for custom projects
- Designed custom logic for PLDs and FPGAs (Altera **AHDL**)
- Maintained office network for Internet access, file serving, web serving, email, DNS, and file backup

## Activities

**Cofounder**, EAST Knowledge, <http://eastknow.org>

January, 2014 through present

- Establish goals, organize events, maintain online presence, design posters and business cards
- Get things done

## Education

**BS Electrical Engineering**

New Mexico Institute of Mining and Technology (NMIMT), Socorro NM