

# Stephen Wiley (Software Engineer II)

I'm a software engineer who has contributed to both large projects working with multiple coordinated teams and small projects (for example as single person greenfield projects.) I'm capable of quickly jumping into large code bases in multiple languages to extend and maintain them as well as start projects completely from scratch. I've worked on large distributed systems with tight service level agreements.

As a rapid learner and serial autodidact. I enjoy learning new languages and technologies and pick them up very quickly. I've seen everything from heavily declarative DSLs to abstract functional languages and enjoy new challenges.

## Career highlights

- Troubleshooting and realignment of DNSSEC validator for distributed in memory database used for global internet facing DNS resolution (C++,Boost,ETL,digital signatures,DNS,cucumber)
- Improved monitoring software to realign log parser with C++ component that had been blinding us to alerts (Perl,AWK,shell,C++)
- Porting components of large framework between languages (Java,Javascript,HTML5)
- Web browser engine and browser written from scratch (C,HTML)
- Greenfield multi platform framework for dynamically generating UIs from remote systems (C,Python,TCL/TK)
- Greenfield development of a delay tolerant distributed file system (Dokan,C#,net,WebDAV)
- Maintenance of deployment automation for both test environments and production(Ansible,Terraform,Puppet,Groovy)
- Customisation of ggml ML library in C++ for specific applications

## Technical Skills

### Software Development

- C (GCC/clang, Ken/8c on plan9, avr-GCC, MPLab)
- C++ on Linux and Windows
- Golang and SQLite3
- Oracle with replication
- C#, scheme
- Concurrent programming with goroutines, pthreads, win32
- Assembly (pic18, avr, 6507, Z80, 8086, AMD64)
- Scripting languages (bash,awk,rubby,perl,JavaScript,FORTH,R)
- Micro controllers (pic, at-mega, atxmega, some arm)
- python,tkinter,numpy,unittest,pyserial
- Instrumentation (valgrind) and GDB (with/without RSP)
- Always writes unit tests (jasmine, harnesses for embedded code)
- Parsers and Lexers from scratch and with parser generators (YACC) in multiple languages
- Famulire with many large scale application architectures including REST, ETL

### Unix-like Environments

- Linux, Mac OS, OpenBSD, Plan9, and QNX
- Common Unix shell tools (busybox and GNU)
- OpenSSH, THHTTPD, OpenSMTPD, dovecot
- Unix networking debugging and filtering tools (pf, tcpdump, inetd, nc)
- Buildroot and custom Linux based OSES with busybox
- Makefiles
- Both Git and Mercurial (RCS ci/co long ago)
- Asciodoc, Pandoc, LaTeX, GRoff, WikiML, LibreOffice
- Bizarre configuration languages: GNU LD scripts, guile, XML/XSLT, uboot, device tree script
- XML starlet
- Docker and LBU (for personal computers)
- Package manager spec files (RPM and apk)
- Nagios
- Deployment Automation: Terraform, Puppet, Ansible
- Verilog (ICEStorm)
- Metasploit
- nmap
- OpenSSL and OpenSSH (both CLI and API)
- OpenLDAP
- Firewalls: PF, iptables, familiarity with Linux ipxfrm code

## Work Experience

### Verisign (March 2020- Present)

I was a software engineer on the team responsible for high availability global scale DNS TLD registry/resolution products including .com/.net/country level TLDs.

- Worked on global scale internet facing applications
- ETL style C++ Oracle Golden Gate Application with many subprocesses
- Nagios monitoring
- troubleshooting of proprietary libraries and specialized tools written in C++ and shell
- Heavy use of Unit tests
- "One button" deployment automation
- Specialized high throughput network server applications

### Undergraduate technical intern for Verisign( June 2012 - December 2012)

- Debugged and fixed build system and features for C++ graphical remote desktop software.
- shell scripts to help coordinate VM management
- Modified Free-BSD FORTH boot loader scripts to allow booting an alternate kernel.

### Consulting (February 2014- 2019)

Prior to working at Verisign I've engaged in numerous successful freelancing projects

### Software Engineering Intern for Tridium/Honeywell (summers 2016,2017,2018)

- Rewriting Java GUIs in HTML5
- Worked on very disciplined agile team
- unit tests in jasmine
- WiFi regulatory compliance test firmware (personally handed off to Underwriter's Laboratories)
- Examination of plastic deformation with finite element analysis software
- QNX and Linux Firmware image generation
- Porting software between (both ways) QNX and GNU/Linux
- Evaluation of QNX VPN software
- Evaluation of extremely small JVMs on arm micro controllers

## Education

- Liberty University with BSCS and math minor 2015-2019 in progres (all coursework was completed, waiting on extracurricular administrative block)
- Ameriture radio lisenca (KKFSU)