

## **SUMMARY**

**Engineering :** SDLC – Problem-solving – Collaboration – Remote development

**Programming :** Python – PHP – Perl – Javascript – HTML5/CSS3 – Responsive Design

**Databases :** SQL/NoSQL – PostgreSQL – MySQL/MariaDB – MongoDB – OpenTSDB

**Administration :** Monitoring – Forensics – Systems Administration – Tool-building – Virtualization

**Networking :** Network programming – network architecture

**Other :** Documentation – Training/Mentoring – Presentation

## **EXPERIENCE**

### **HARDWARE/SOFTWARE ENGINEER**

*MANTECH, ON CONTRACT AT USAEPG – 2/2016 to 5/2017*

Consultant and developer on the Electronic Proving Ground support contract, (U.S. Army Test and Evaluation Command); Supporting various developmental and research projects; activities included:

- Responsible for the development and support of several network forensics and data collection related projects; I researched the integration of new technologies and best practices.
- Acted as SME and point of reference for Linux systems development and deployment,
- Developed a customized Ubuntu-based Linux distribution, called "HeliOS," for use as a network-intelligence analyst's workstation; created a build system for this task using virtualization for testing.
- Developed a coordinated Update System in Python for keeping HeliOS systems, deployed in isolated tests environments, fully up-to-date.
- Researched application front-end techniques for systems deployed in isolation using Electron.io and NodeJS.
- Developed in Python, using Python Bottle, a system for displaying documents, manuals, and training materials on the HeliOS system.
- Developed in Python, using the YAD dialog utility, a menu system with built-in wrappers and terminal management, specific to the HeliOS system and its mission tools.
- Developed a local installer, associated with the Local Update System, that installs NodeJS and NW.js-based applications and interfaces.
- Assisted in the testing and development of Raspberry Pi-based mobile data collectors.

### **VERSATILE TECHNOLOGIST**

*DISYS, ON CONTRACT AT BOEING – 10/2015 to 2/2016*

As a systems specialist and systems programmer, I performed support and development activities as part of the team that helped keep Boeing's avionics laboratories running. While here, I developed a set of software libraries that could be applied to the development of tools to automate and systematize the maintenance of these environments. In this position, I was:

- Responsible for technical support of Linux systems, and networks
- Responsible for provided multi-platform integration, account, group, and netgroup management,
- Because of my extensive programming background, I also served as lead developer of administrative automation tools and techniques,
- Participated in team development and planning.

**PROGRAMMER***NORCHEM LABS (CORDANT HEALTH SERVICES) – 7/2014 to 4/2015*

As a programmer for Norchem Labs, (a part of Sterling Health Care, which is now part of the Cordant Health Services family), I worked on “Sentry,” the company's flagship web-based product for the management of corporate and public drug testing policy, for the private and public sectors. This entailed:

- Participation in the team development process using Git, OpenVPN and programming in Perl, Javascript, and MySQL,
- Learning to compose DBIx::Class resultsets and process the results through FormHandler templates,
- Front-end template integration (HTML::Template),
- Javascript for the interface, (jQuery and Prototype),

**ARCHITECT / DEVELOPER** *BOOZ-ALLEN-HAMILTON, ON CONTRACT AT USAEPG – 10/2007 TO 12/2013*

As a consultant and developer on the Electronic Proving Ground support contract, (U.S. Army Test and Evaluation Command), I created a system called the Network Analysis and Collection System (NACT) in support of the Joint Data Collection And Review System project. This entailed:

- The design and implementation of a development environment for the NACT on the Linux platform, (Subversion, Apache, Nginx, VirtualBox, RedHat kickstart, Logstash),
- Development of, and automated installation of, controllers for open-source tools (Cacti, Nfsen/Nfdump, runit),
- Development of GUI views for command-line tools, (tshark, RRDtool, ncurses),
- Development of protocol analysis, network capture, data extraction, and behavior analysis programs, (Perl, Python, PHP),
- Development of a sophisticated BASH-based installation system,
- Modeling adapted for Sqlite, PostgreSQL, MySQL, OpenTSDB, MongoDB, and SQLServer,
- Controllers and views developed in PHP with the Smarty Template System and Javascript,
- Views for responsive design: HTML5, and fluid-grid CSS3, (960grid to Bootstrap; Prototype to jQuery; D3, others),
- On-site and remote support for ATEC test events,
- Research and integration of new technologies and best practices.

**PROGRAMMER / ANALYST***ON CONTRACT TO Boeing M&PT Group – 2007*

As a consulting developer, I ported Access applications to a Web 2.0 platform in order to make it scalable and to create a system that more of the staff could maintain. It featured:

- Authentication that integrated with Boeing's Single sign-on Service
- Development of a new Oracle database
- Asynchronous browser-based interfaces (AJAX)
- A Perl-based system utilizing session management and template-based output generation

**PROGRAMMER / ANALYST*****ON CONTRACT TO Connexion-by-Boeing - 2005-2007***

I designed and built a framework for web-based applications that made the power and advantages of the Connexion corporate intranet accessible to engineers who did not have the time to become internet programmers. This framework consisted of a standard presentation format with the following characteristics:

- A full-stack web-based authentication and user-management scheme supported transparently by either PostgreSQL or Oracle through my own object-oriented database classes,
- A standardized visual frame that partitioned the screen space into “system” elements and a “user space” that was accessible through an API that exposed a rich set of built-in capabilities through a unique callback mechanism,
- A database-driven CSS-based menu system and a rich set of dynamic (PHP-driven) CSS presentation elements,
- Support for external “user space” programs written in any system-supported language, or highly integrated programs written in Perl and PHP,
- A standardized template-driven presentation layer, utilizing the Smarty templating system, that was fully accessible through the API callback mechanism,
- Support for AJAX functions through the Xajax Library in native PHP or in Perl through the Perl-PHP integration library; all this was also fully exposed through the API,
- Object classes for the dynamic generation of graphs from data generated by user space programs or system information.

**FRONT-END DEVELOPER*****ON CONTRACT TO AMAZON.COM - 2005***

At Amazon.com, I worked as a developer in the Large Accounts division. My specific work included reconfiguring NBA.COM to support Simplified Chinese, and the development of several shopping cart features designed to be calendar sensitive and self-deploying during the holiday season. All work was done in Windows and Linux using Amazon’s standard Perl-Mason library environment.

**PROGRAMMER / ANALYST*****CATHOLIC HEALTH INITIATIVES – 2002-2004***

At CHI, I developed numerous database ETL programs in Perl, developed web application in ASP.NET, and created and supported automatic control systems in Tcl/Expect. I also developed and supported the Optio Medforms reporting system. The computer environment was SQL Server, AIX, IIS, Windows and several proprietary health care systems.

**PROGRAMMER / ANALYST*****EDGATE.COM – 2001-2002***

As a consultant to Edgate, I assisted them in the development of their PHP-based website. I also did some back-end administration programs in Perl. The system environment was Apache on Linux.

**PROGRAMMER*****ON CONTRACT TO WALT DISNEY INTERNET - 2001***

As a consulting developer at WDI, I created ad hoc weblog miners in Perl in a Windows-centric environment. I also created ETL scripts for SQL Server.

**DEVELOPER / SUPPORT ENGINEER*****ON CONTRACT TO BOEING AIRCRAFT CORPORATION - 1999-2001***

During this project, I carried the rotating duty pager as a Level III support specialist for the application integration layer of the largest distributed application environment in the world: Boeing's DCAC/MRM project. I also worked as a tool developer and created the SmartStart system that automated part of the application layer's complex startup and shutdown procedures. This reduced downtime by several hours with each outage; as the system directly impacted the commercial aircraft assembly line, downtime on this system cost approximately \$100,000 per minute. Thus, reducing downtime through SmartStart literally saved the company millions of dollars each year.

### **ADDITIONAL PRIOR WORK EXPERIENCE**

**Network Administrator**, DataPrint, Milton, Washington

**Programmer/Analyst II** – Utah Department of Commerce, Salt Lake City, Utah

**Programmer III** – Utah Geological Survey, Salt Lake City, Utah

Technologies I have worked that brought me into the 21<sup>st</sup> century: Certified Novell Network Administrator; network design and configuration; production development in Turbo C and Turbo Pascal; administration of AIX and HP/UX systems; Oracle 9i DBA training; Progress 4GL training; desktop database and office support; documentation generation; white paper authoring; teaching and training.

### **EDUCATION**

Bachelor of Science, Computer Science, University of Utah

Allied Field of Study: Economics