

## Summary of Qualifications

<b>Languages:</b>	C/C++ (22+ yrs)	Java (20+ yrs)	C# (16+ yrs)	Perl (19+ yrs)	PHP	Fortran
	Visual Basic	HTML	Java/VB script	LabVIEW	VHDL	Assembly
<b>Technologies:</b>	.NET	OpenGL	DirectX	Swing	DDS (RTI)	ASP/ASP.NET
	CGI & Web Dev.	Agile Development	XML/XSD	SQL	Eclipse	JMS/ActiveMQ
	Win32 API	Sockets	DAQ	HLA & DIS	Continuous Integration (Jenkins/Hudson)	
	SOA	Subversion	Static Analysis	JIRA	Modeling and Simulation	
	LDAP	Apache & Samba	Log4j/log4cxx	OSGI	Windows & Linux system administration	
	VMware	VirtualBox	Boost	Docker	Embedded Systems	

**Platforms:** Windows, Linux, DOS, VxWorks, Integrity, Android, Mac

## Experience

4/04 – Present

**Senior Principle Software Engineer (E6), Raytheon Company** – El Segundo, CA

- Raytheon Certified Software Architect
- Lead software engineer and architect across a family of products and programs through all process lifecycles
- Project & team management, including staffing, budget, task management, and earned value management
- “High Potential” HR designation
- Designated Subject Matter Expert on many technologies and products
- Class instructor for internal Continuous Integration Courses. Corporate CI expert
- Interviewer for Software Engineering Center (both new and experienced hires)
- Multiple team and individual achievement awards

### Raytheon Work Summary

2016-present: Multiple Withheld activities.

2016-present: Multi-Function System Services (MFSS) Product Family – A Gen6 Cross-Domain Sensor System & SW Architecture, and implementation framework supporting Radar, EOIR, EW, Comms, and other sensor types.

- System & SW Architect, Software Lead, and Product Owner
- Supporting multiple programs, IRADs, and proposal efforts

2015-present: Supported multiple winning proposal efforts

2013-2016: Multi-Function Integrated Receiver Exciter System (MFIREs) (Internal R&D) – Software Lead, Architect

- Created next gen multi-function system & SW architecture collaborating with many stakeholders
- Lead SW team to multiple successful on-time, on-budget deliveries

2011-2015: Next Generation Electronic Warfare (Internal Corporate R&D) – Software IPT Lead, Architect, Developer

- SW Architect and initial developer for Multi-Function RF System (MFRFS) prototype (Java)
- SW Architect on next generation mission services (OSGI-based Java autonomous mission computer software)
- Many successful demonstrations to internal and external customers. Demos resulted in new contracts & projects.
- Next Gen Resource Management research & full system prototypes targeting multiple EW programs
- Integrated cyber capabilities on Multi-Function RF tactical system collaborating with other RTN business units
- Software Lead on successful flight test of EW system on Raytheon Multi-Program Testbed (RMT) – Boeing 727

2011-2012: Next Generation Jammer – Modeling & Simulation Software Lead, Software Architect, Developer

- SW Architect for Digital System Model (integrated jamming effectiveness models – Java & MATLAB)
- Integrated Java MFRFS with government supplied Suppressor (Fortran) via C++ & JNI

2011: Next Generation Unmanned Air Systems (Internal Corporate R&D) – Software lead

- Integrated Java & C++ SW on tactical hardware using RTI DDS
- Led team that integrated i2Tech EO/IR sensor ball to autonomous sensor management software (C++ & Java)

2009-2010: Multi-Function RF and RF Spectral Dominance (Internal Corporate R&D) – Sensor manager lead

- Sensor Resource management for Multi-Function RF systems
- Support for flight tests

2009: Automatic Target Recognition Emerging Technology (Internal Corporate R&D) – Tech lead & developer

- Multi-target tracking and automatic route planning (Java)

- Real-time line-of-sight terrain library using 3D KML building data and DTED elevation data (C++ & Java)

2008: Advanced Airborne Intelligence, Surveillance, and Reconnaissance (Internal Corporate R&D) – Sensor lead

- Researched and prototyped Real-Time Java applications for use in unmanned airborne vehicles
- Integrated multi-source tracking (C++ & Java)
- Productized system integration test tool (Java)

2005 - 2007: Saint George (Internal Corporate R&D) – Sensor Management and Sensor Models Lead

- Modeling and Simulation of Unmanned Vehicles in virtual world (SOA-based Java)
- Designed and developed automated test scripts and framework for validation and continuous regression testing
- Developed highly OO cross-platform C++ sensor simulation framework with plug in models
  - Radar – Monostatic and Multistatic Air to Air modes, and Air to Ground modes, based of APG-79
  - SIGINT - models based off J-UCAS
  - EO/IR – models based off MTS-B using real time synthetic video from Vega Prime and VRSG
  - AT3 - based of proprietary models
- Wrote multiple HLA and DIS interface layers for various applications
- Designed and developed multiple Java and C++ applications
- Integrated Fortran-based mission modeling tool with C+ and Java applications

2004: B2 Radar Modernization Program

- Developed LabVIEW data acquisition software
- Designed and wrote requirements documents for the STE hardware & software, Video Distribution System, GPS & IRIG Time Distribution System, and 1553 Switch system
- Worked directly with manufactures and vendors

4/05 – Present **Website architect and developer, Society of Professional Engineers** – El Segundo, CA

- Wrote front and backend using Perl and MySQL (<http://SoapLa.com>)
- Designed and coded web-based membership database and event registration system integrated with Paypal (Perl)
- Vice President and founding member. Over 3000 members.

2000 – Present **Freelance** – Torrance, CA

- Various projects including custom Java & C# applications

3/02 – 2010 **Consultant and original website architect and developer, Central Pacific Ski Club** – San Luis Obispo, CA

- Wrote front and backend using ASP.NET, C#, and XML (<http://CPSCOnline.com>)
- Later ported the system from C# to Perl and implemented a MySQL database
- Designed and coded web-based membership database (Perl)

6/02 – 9/02 **Software Developer Engineer in Test Intern, Microsoft Corporation** – Redmond, WA

- Wrote sample applications for the .NET Compact Framework
- Wrote automation for Visual Studio for Devices (PPC and Win CE) App Install and debugger features

6/01 – 9/01 **Software Test Engineer Intern, Microsoft Corporation** – Redmond, WA

- Design and wrote test tools for the Stinger Smartphone (Later renamed Windows Mobile), written in C#
- Tested Device Management in Stinger Smartphone (Later renamed Windows Mobile)

6/00 – 9/00 **Software Test Engineer Intern, Microsoft Corporation** – Mountain View, CA

- Tested PowerPoint's Custom Animation and Presenter Tools features
- Wrote automation test scripts using internal tools and Perl

4/99 – 12/99 **IT, Network Administrator, Webmaster, Prime Time Sports TV** – San Luis Obispo, CA

- Responsible for supporting, maintaining, and upgrading the company's computer systems in three locations running NT Server, Exchange Server, IIS, Merlin Legend phone system, Intuity Audix voicemail system, and other network applications
- Programming both Access/Visual Basic and HTML/ASP web pages

## Patents

2012 - US8922419 B2 - Jam Assignment Manager

2016 - US9295072 B2 - System and methods for using communication resources

Other patents pending or in work

## Education

2002 – 2003 Cal Poly, San Luis Obispo, CA

1996 – 2001 Cal Poly, San Luis Obispo, CA

**M.S. in Computer Science**

**B.S. in Computer Engineering**

### **Leadership and Extracurricular Activities**

- Raytheon YESnet (Young Engineers & Scientists Network) Social Chair & Council Member (4+ years)
- Raytheon YACnet (YESnet Alumni Council) Founding Member (8+ years)
- Society of Aerospace Professionals Vice President of Membership (13+ years, over 3000 members)
- Cal Poly Ski Club Executive Board Vice President (1000 members, 2<sup>nd</sup> largest ski club in the nation)
- Week of Welcome, College Orientation Leader (4 years) – College orientation program
- Wildflower Triathlon, committee leader (3 years)
- Running Thunder, Board Member (2 years) – Cal Poly spirit and rally club
- Yosemite Residence Hall Tower President & Hall Council Member

### **School Projects:**

Senior Project: Classwatch is a website which finds open classes for over 1200 Cal Poly students free of charge.

Master's Thesis: "A Complete Wood Grain Modeling Application Incorporating Multiple Cut Types, Species, and a Tree Ring Database"