Gary Schnee

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SUMMARY

Software Engineer with extensive experience in the design, implementation, and testing of large-scale software systems. Managerial and hands-on experience with complex military and intelligence systems development. Involved in all project phases from requirements analysis to sell-off.

TECHNICAL SKILLS

Operating Systems: Linux, VxWorks, Green Hills, LynxOS, Windows/NT, DC/OS, UNIX, QNX

Software Architecture and Design: Service Oriented Architecture (SOA), UML, Object-oriented, Microservice Architecture, IBM Rational Software Architect, Enterprise Architect, Simulink/Stateflow

Requirements Analysis: DOORS

Programming Languages: Java, C++, ANSI C, MATLAB, Ada95, PowerPC ISA, MIL-STD-1750A Assembly, IBM 370 Assembly, Python

Software Development Environments: Eclipse, IntelliJ, MS Visual Studio, NetBeans, Qt, AdaMULTI, GNU toolset , MapForce, Mule

Frameworks/Platforms/Tools: Spring, REST API, Cucumber, Mockito, Docker, MongoDB, AWS Cloud, Storm, Redis DB, Kafka

Hardware: PowerPC, 80x86, MIPS, MIL-STD-1750A, AP-101F

Network: Ethernet, CANbus, TCP/IP, MIL-STD-1760/1553B, RS422, WCDMA, DR-11

GOVERNMENT CLEARANCES

Active TS/SCI clearance with CI Polygraph.

CAREER HISTORY

Software Engineer, Raytheon Technologies, Aurora, Colorado 2017 - 2021
ZoeTech LLC (Contractor)

Responsible for the development and testing of application software for GEOINT and SIGINT data collection management systems for United States Intelligence Agency (agency name and project names withheld). Software implemented in Java for x86-64 Linux platform incorporating RESTful APIs and JSON data interfaces. Deployed as containerized microservices onto DC/OS operating system hosted on AWS cloud.

- Develop application software for command processing, collection assignment, data processing, and system status capabilities.
- Define software requirements and software architecture.
- Design software using UML (IBM Rational Software Architect).
- Implement software in Java for x86-64 Linux platform.
- Unit test software using JUnit and Mockito frameworks.
- Develop system-level automated integration test scenarios and perform operations testing.
- Create DRs detailing discovered system deficiencies and verify their resolutions.

CAREER HISTORY (Continued)

Software Engineer IV, Harris Corporation, Colorado Springs, Colorado 2016 - 2017

Responsible for the development and testing of application software for the United States Strategic Command (USSTRATCOM) Non-Traditional Data Pre-Processor (NDPP). System transforms Space Situational Awareness (SSA) data received from various worldwide sensors into formats consumable by Joint Space Operations Center (JSpOC) mission systems. Software developed in Java for x86-64 Linux and Windows platforms.

- Developed management console GUI software for control and display of message and system status, statistics, and states.
- Defined message processing flows using Mule Enterprise Service Bus (ESB).
- Created data transformations using MapForce.
- Implemented message control software that delegates processing to Storm computational cloud.
- Integrated and tested software using JUnit.

Senior Software Engineer, The Boeing Company, Naval Air Station Jacksonville, Florida 2014 - 2015
CTS International (Contractor), Bellevue, Washington

Responsible for the development and testing of aircraft simulation software for the United States Navy P-8A Poseidon Virtual Maintenance Trainer (VMT). System provides interactive, high- fidelity aircraft simulations used for teaching maintenance procedures to crewmembers. Software developed in C++ for x86 Linux platform.

- Developed software for flight control, navigation, communications, door systems, and lighting systems capabilities.
- Defined system-level and software-level requirements based on aircraft maintenance and fault reporting procedures.
- Designed object-oriented software using UML (IBM Rational Rhapsody).
- Developed software unit level and integration tests using Boost Test Framework. .

Senior Software Engineer, General Electric Transportation Systems, Erie, Pennsylvania 2012 - 2014

Responsible for the development and testing of embedded software for locomotive Engine Control Units (ECUs). Next-generation freight locomotive system designed to decrease emissions for United States Environmental Protection Agency Tier 4 compliance. Real-time multithreaded software developed using MathWorks (Simulink/MATLAB /Real-Time Workshop), C++, and PowerPC ISA Assembly for Freescale MPC5567 and P1022 PowerPC/QNX platforms.

- Developed CANbus communications software, including requirements analysis, design, implementation, test, and integration. Performed software testing using CANalyzer.
- Created health monitoring and diagnostic system for stack and heap utilization determination, resulting in detection and correction of stack overflow exception errors on multiple product lines.
- Wrote dual turbo control software using C++ and MathWorks (Simulink/MATLAB/Real-Time Workshop).
- Developed Windows hosted test stand using Microsoft Visual Studio C++ for host-based testing of embedded locomotive software.

CAREER HISTORY (Continued)

Senior Software Engineer, Aurora Flight Sciences, Manassas, Virginia 2010 - 2012

Responsible for the development and testing of flight computer software for United States Air Force Orion Unmanned Aerial System (UAS). Unmanned aircraft provides high persistence platform for Intelligence, Surveillance, and Reconnaissance (ISR), communications relay and strike missions. Aircraft software developed using MathWorks (Simulink/Stateflow/MATLAB) and C++ for x86/RTLinux platform. Ground Control Station (GCS) software developed in Java, with configuration files written in XML.

- Developed Contingency Management System, including CONOPS, software architecture, requirements, design, implementation, test, and integration.
- Developed command and control Graphical User Interfaces (GUIs) for ground control stations.
- Authored open architecture trade study for Air Force Research Laboratory (AFRL).
- Investigated industry open architecture initiatives for development of common, open and scalable architectures for command and control of Unmanned Aircraft Systems (UAS).
- Participated in Office of the Under Secretary of Defense for Acquisition, Technology and Logistics (USD/AT&L) Unmanned Aircraft System (UAS) Control Segment (UCS) Working Group (UCSWG).

Staff Software Engineer, BAE Systems, Santa Clara, California 2005 - 2009

Software Engineering IPT Lead for United States Army Future Combat Systems (FCS) Manned Ground Vehicle (MGV) Close Combat Armament System. Remotely operated direct-fire weapons system provides vehicle crew with ability to engage armored vehicles, watercraft, aircraft and personnel. Real-time embedded software implemented in C++ for x86-64/LynxOS platform. Program assessed at CMMI Level 5.

- Managed systems architecture development, use case analysis, software requirements, design, implementation, unit test, and integration.
- Designed object-oriented software for fire control, executive control, and stabilization software components.
- Established and maintained project plan by performing size, effort, and cost estimates and executed program within allocated cost and schedule.
- Developed organizational and technical strategies and provided oversight of technical approaches.
- Staffed software team, including development of job descriptions and requisitions and interviewing of candidates.
- Prepared and delivered project status presentations.
- Wrote performance and development objectives and conducted performance reviews of software development team members.

Senior Software Engineer, Raytheon Company, Sudbury, Massachusetts 2004 - 2005

Software team lead for Radar Simulation Software for United States Navy Cobra Judy Replacement (CJR) instrumentation radar system. Ship-based dual band radar suite provides worldwide technical data collection for threat assessment of ballistic missile development, testing, and range augmentation. Real-time multitasked software designed for multiple distributed processors. Project reused legacy Ada95 implementation for incorporation into C++ development.

- Monitored project progress and ensured that project tracked to scope and resource requirements.
- Established and maintained software team project schedule.
- Developed object-oriented software architecture and design using UML (IBM-Rational Rose) for successful PDR completion.
- Performed use case analysis.
- Interfaced with United States Navy customer representatives to present and gain feedback for software design and architecture.

CAREER HISTORY (Continued)

Senior Software/Systems Engineer, Hamilton Sundstrand Corporation, Windsor Locks, Connecticut 2003 – 2004
Dion Software, LLC (Contractor), Middletown, Connecticut

Responsible for the development and system level testing of flight software for United States Air Force F-15E Fighter Programmable Armament Control System (PACS). Onboard stores management system provides controlling logic for fail-safe monitoring, launching, and jettisoning of all air-to-air and air-to-ground weapons and stores. Real-time multitasked software developed for embedded R3081 MIPS processors hosted in VME chassis. Source code implemented in Ada95 and ANSI C using Green Hills AdaMULTI IDE.

- Developed software for all weapons functions including Armament Displays and Controls, Weapons Launching and Jettison, and Built-In-Test.
- Investigated and debugged software in integrated lab facility using MIL-STD-1760 bus, weapons simulator/monitor, oscilloscopes, and memory analysis tools.
- Incorporated requirements updates into software design and implementation.
- Updated software to fix customer alerts on as needed basis for successful flight test readiness.
- Upgraded and tested software for increased aircraft capabilities to support smart weapons (JDAMs, JSOWs, and WCMDs) and Small Diameter Bombs (SDBs).

Senior Software Engineer, InterDigital Communications Corporation, Melville, New York 2001 - 2003

Software team lead for the design, development, and testing of protocol stack for third generation Universal Mobile Telecommunication Services (UMTS) System. Targeted for a variety of wireless communications devices, such as mobile phones, personal digital assistants (PDAs), mobile computing devices, other terminal-end wireless devices, base stations and other infrastructure equipment. Real-time embedded multitasked system developed on UNIX host using object-oriented design and implemented in C and SDL.

- Designed, implemented, and tested software system for OSI Layer 2.
- Performed software requirements analysis of Third Generation Partnership Project (3GPP) specifications.
- Coordinated team member activities.
- Strengthened technical competency of team members.
- Resolved technical and standards related issues for software team.
- Prepared information briefings and technical reports.

Software Engineer, Northrop Grumman Corporation, Melville, New York 1999 - 2001

Software team lead for the design, development, and testing of Central Communications Control System for United States Navy P-3C Maritime Surveillance Aircraft Simulator/Trainer. System incorporated embedded PowerPC/VxWorks target processors and Ethernet network interfaces into VME chassis. Real-time design utilized multitasking and TCP/IP socket communications. Object-oriented design implemented in C++ on UNIX development host.

- Performed software requirements analysis and developed software architecture.
- Created and maintained software team schedule.
- Presented software designs at customer meetings and design reviews.
- Designed, implemented, and tested system software.

CAREER HISTORY (Continued)

Software Engineer, Telephonics Corporation, Farmingdale, New York 1997 - 1999

New York City Transit Communication System
Designed and implemented embedded OSI-based software communications subsystem for mass transit distributed control networks. Hosted on various transit products including onboard radio and intercom communications, automated vehicle location displays, and onboard monitoring and diagnostics equipment. Object-oriented design implemented in C++ on Windows development host for 80486/VxWorks target processor.

- Incorporated real-time multitasked design.
- Utilized message-based protocol to communicate with Microprocessor Interface Program (MIP).
- Developed configurable and scalable system that supported self-installation and network manager installation of node addresses, network variable bindings, and communications parameters.

C-17A Integrated Radio Management System
Developed upgrades to embedded real-time communication system for United States Air Force C-17A transport aircraft.

- Designed audio processing software for radios, ICOM, PA system and communication control units.
- Modified Built-In-Test and fault monitoring software for radios and mission computer.
- Created and performed system level integration tests for software and hardware verification.

Software Engineer, AIL Systems, Inc., Deer Park, New York 1995 - 1997

Developed Preprocessor Flight Software for U.S. Air Force B-1B Bomber AN/ALQ-161-A Defensive Avionics Electronic Countermeasures System.

- Created top level and detailed level designs and implemented source code for digital pulse processing and radar jamming functions.
- Developed and performed system level integration tests.

PATENTS

United States Patent Number 7,058,032 Issued 2006
Scheduling data transmission by medium access control (MAC) layer in a mobile network.

EDUCATION

Master of Science, Computer Science 2003
New York University (NYU), Brooklyn, New York

Bachelor of Science, Computer Science 1995
Hofstra University, Hempstead, New York