## Work Experience

### Lead Cyber Engineer, Northrop Grumman UK, Cyber & Intelligence (June 2023 – Present)

* Configured and built u-boot, the Linux kernel, and root file system for the PYNQ-Z1 development board for an OpenCPI platform in support of ongoing work tenders.
* Enhanced internal understanding of Low Probability of Intercept / Detection (LPI / LPD) RF covert communications capabilities through an RF R&D project using FPGA on PYNQ-Z1.
* Improved efficient onboarding of new engineers by mentoring graduate intake in C/C++, machine architecture, Pull Requests and Git issues.
* Contributed to internal R&D project focusing on classifying Radio Frequency (RF) products through machine learning models.

### Senior Software Engineer, Alert Logic, Fortra (October 2021 – April 2023)

* Led AWS C/C++ parsing infrastructure by guiding **a** 3-engineer agile team using JIRA, resulting in business goals and improved cross teamcollaboration.

### Boosted efficiency 20% by optimizing code with Xcode instruments, DTRace, and algorithmic complexity analysis, resulting in reduced resource consumption.

### Increased unit test coverage by integrating Google test with Erlang NIF and Jenkins to publish test results, resulting in enterprise level visibility, and increasing confidence in code product component robustness.

### Unified parsing description language by creating a JQ Path-searchable structure in C++, resulting in a simplified syntax across all formats.

### Senior Software Engineer / Product Lead, Genesis Technical Systems (July 2018 – October 2021)

* Achieved successful deployment of Genesis equipment by leading the development of the GEMS 2 management platform in an Agile team utilizing OpenDaylight and Java-centric container architecture to further the goals of integration in AT&T Airship.
* Improved overall packet processing and network performance through the development of a QoS system for a TR101 node implemented using DPDK 18.05.
* Enabled the deployment of ASM-10, an FPGA based TR101 node, by designing and developing the embedded control system for the Access Service Manager (ASM) platform.

### Freelance Developer Consultant Mentor and Trainer (2001 to 2018)

* Provided technical tuition, consultancy, and course delivery working in Java J2EE, C/C++, and assembler for various clients such as DEL, BEA, and OtherMedia on a contract basis.

### Senior Consultant, Valtech UK Ltd (January 2000 – December 2002)

* Reduced hiring costs and increased technical standards by developing a 'boot camp' training program for new employees.
* Strengthened cybersecurity measures and informed company-wide business planning by leading a team to secure the company’s network, developing solutions for ongoing attacks, and creating a report for the business strategy.
* Delivered consultancy, pre-sales consultancy, training course delivery, and mentoring to further the commercial goals of the enterprise.

### Research Engineer, RiverSoft Plc, OpenRiver (June 1996 – December 2000)

* Achieved successful investor presentations and growth of the company by securing funding through the implementation of the initial GUI prototype for the Open River network management system.
* Improved code quality and transparency across development teams by implementing coding standards and procedures, source code control, and code reviews.
* Developed a “boot camp” training program to hire and coach physics and math graduates in software engineering to meet the rapid growth and low expenditure goals of the company expected by investors.

### Software Engineer, Micromuse Plc, NotCool (1995 – 1996)

* Improved data integration and network management by developing probes and gateway services for Netcool Omnibus, enabling the capture, export, and import of data between external systems and devices.
* Enhanced user interface functionality across multiple platforms by developing GUIs and GUI components on Windows 95, NT, HP UX, and Solaris using technologies such as Visual C++, MFC, GCC, and G++.
* Achieved better security protocols for network management by designing and implementing the first fully functional security protocols for the Netcool Omnibus server.
* Achieved reliable support and debugging by providing 1st line emergency technical support to remote and local clients, ensuring minimal downtime and quick issue resolution.
* Achieved dependable code quality and non-destructive editing by introducing source code control and revision systems using RCS.

## Education

B.Sc. Information Systems Analysis and Design - Kingston University (1991 - 1995)

## Skills

* C: C17, C++: C++11/14/17/20, Python, Erlang, Java: Java 8 / 11
* Maven, make, petalinux, buildroot
* Real-time systems, Multi-core development / architecture, Multi-threading / PThreads, Algorithmic complexity, Data structures and algorithms, Team leadership and mentoring, Test-Driven Development (TDD)
* Erlang Native Interface Functions (NIF), J2EE, WebLogic Application Server, Lex & Yacc / Bison, Ragel, Protect mode development, Windows services, Kernel modules / device driver development on Linux, FPGA integration, Netronome MicroC on the Agilio CX SmartNIC, DPDK18.05
* Packet processing at Layer 2/3/4, IGMP, DHCP, ARP.
* Junit, Mokito, JRunner, Google Test / Mock frameworks, Jenkins
* HTML / XML, CSS