Barry Robinson | +44 777 079 1061 | barry.w.robinson64@gmail.com

Work Experience

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

Projects

- Enable OpenCPI development in support of work tenders and bids. The project sought to develop an OpenCPI platform for the PYNQ-Z1, a low-cost FPGA board. This required the Linux kernel and built u-boot to be configured to boot the board, and a root file system to be created. The work to create the platform remains ongoing.
- Contributed to internal R&D project focusing on classifying Radio Frequency (RF) products through machine learning models.
- 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. This included a "summary of current research" document.
- Improved efficient onboarding of new engineers by mentoring graduate intake in C/C++, machine architecture, Pull Requests and Git issues.

Technologies and skills

PGA, Board Bring-up, u-boot, Linux kernel, root file system, C/C++, Python, GitEA, AWS, Docker, Docker compose, mentoring, team leadership.

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

Projects

- Led AWS C/C++ parsing infrastructure by guiding **a** 3-engineer agile team using JIRA, resulting in business goals and improved cross team collaboration.
- 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.
- Coordinated delivery and created tutorials for new features with the content delivery team to guarantee a smoot transition between deployments,

Technologies and skills

Erlang, C/C++ 14/17, Erlang Native Interface Function (NIF), Xcode Instruments, DTRace, Jira, GitHub, Docker, AWS, Jenkins, mentoring, team leadership, Google Test Framework, Ragel.

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

Projects

- Achieved successful deployment of Layer 2 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 Layer 2, TR101 node, by designing and developing the embedded control system and device drivers for the Access Service Manager (ASM) platform.
- Maintained and improved an implementation of ASM-1, deployed using a Java 8 control plane communicating with a P4 / C99 data plane through Thrift, on a Netronome AgilioCX SmartNIC.
- Improved build time for Jenkins server by refactoring and improving the implementation of nightly build scripts, and provisioning builds on multiple server systems to reduce the time to build from 12 hours to 4.

Technologies and skills

Java 8/11, C 99/11, C++17, Make, Maven, OpenDaylight, Karaf, Jenkins, buildroot, petalinux, u-boot, Linux kernel, Linux device drivers, network device driver for ZCU106, FPGA control systems on ZCU106, DPDK 18.05, Layer 2 / 3 / 4 packet processing, low level implementations and/or debugging of QoS, IGMP, DHCP, APR, ICMP, SSH, Linux internals, threading and concurrency, pthreads, failover and distributed processing, Junit, Mokito, JRunner, Algorithmic complexity, Data structures and algorithms.

Freelance Developer Consultant Mentor and Trainer (2001 to 2018) – Semi retired

- 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.

Technologies

HTML, Bootsrap 4.0, CSS, C/C++, Business Process Reengineering, EJB, Nginx, hosting services, AWS, mentoring, consultancy.

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

Projects

- 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.

Technologies and skills

EJB, Java 8, J2EE, WebLogic / Glassfish Application Server, Training course delivery, mentoring, consultancy.

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.

Technologies and skills

C 11, C+11, Flex & Bison, Make, Tibco Rendezvous, RCS / CVC, Windows internals, Linux internals, mentoring, team leadership.

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.

Technologies and skills

C/C++, Sybase, Oracle, HPUX, Sun Solaris, Linux, Windows NT / Windows internals, threading and concurrency, pthreads, RCS / CVS, MFC.

Education

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