

Robert A. J. Marshall

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Profile

Senior Linux developer with wide experience in developing complex applications for various utility companies in C++, Python and Java.

Skills

- I have been responsible for software and hardware installation and maintenance on a variety of environments including Linux and Windows. I have experience of managing developers and software products.
- I have many years experience in software engineering with numerical analysis skills and I have used those skills to create efficient programs to provide mathematical solutions. Applications have included power system network simulation, process flow diagrams and hydraulic analysis.
- I have used a variety of languages (including an in-depth knowledge of C++ , Python and Java) in program specification, development and testing. I have also designed interfaces between CAD formats, tools and databases.

Contract work – 2010-2013

- Design and implementation of Linux kernel modules for motion detection running on an Android device.
- Development of smart meter software in Java/C for **General Electric** in a mixed Windows Linux environment. The software operated within an Oracle environment using TCP/IP and UDP libraries. I also developed code for the implementation and testing of metering systems using the DLMS protocol; both client and server functionality were enhanced.
- Enhancement and bug fixes for a C and Ruby application for a software house. Application provided web interface to account data via MySQL.
- Development of user interface for commissioning of embedded electronic system using C++ and MFC within **General Electric**. Documentation of existing system and enhancement of system for commissioning/ decommissioning of battery control system using CAN network.
- Enhancements to existing power control system for **Siemens PTI** using proprietary Fortran-like language. (2 months)

TNEI Services Ltd, Manchester

[TNEI](#) is a medium sized independent energy consultancy, it provides software and support to power industry clients both in the UK and overseas including Scottish Power and Northern Ireland Electricity.

April 2007 - December 2009 - **Senior software engineer**, one of a team of four (2 senior, 2 junior), reporting to the software manager with responsibility for the support and release of their main software product. Additionally I provided software and hardware support for the company both for users and the company network infrastructure.

- Was involved in the maintenance and development of C++ software under Linux and Windows within the area of power systems simulation.
- Used Python to automate and enhance the capabilities of TNEI's electricity network modelling tool (IPSA+) for a variety of power utility companies.
- Involved in Linux systems administration and the management of the company email system (using exim4 and spamassassin).
- Provided hardware and software support for the rest of the company.
- Customer liaison for the development of custom application software both assisting clients in analysis and adding functionality by developing python add-on modules with their own customer required GUI. Qt was used to design the GUI and to implement the program/user interaction both in Python and C++ . Clients included Scottish Power and Northern Ireland Electricity
- Was responsible for the support and releases of the company software maintaining the installers and ensuring that the software downloads were secure and protected from use by users without current maintenance contracts.

2005 - 2007, I worked as a software consultant for a number of clients.

- I administered, installed and maintained a variety of Linux distributions (RedHat and Debian based) set up mixed Linux/Windows networks and developed iptable knowledge in order to enforce safe practices.
- I developed Java applications under Linux that perform automatic meter reading using SOAP and store and access results in an Oracle database.

2000 - 2004, Senior Engineer, Power Technologies, Knutsford.

Power Technologies is a power systems analysis company. I produced electrical network simulation software for planning, designing, and analyzing distribution systems.

- Management of software design, testing and release, team management and interfacing with customers over helpdesk issues and future requirements.
- Responsible for integration of reliability engine within PSS/Adept and the development, testing and release of PSS/VIPER.
- Software support and design.
- Implementation of the merging of two product lines combining the code bases efficiently.
- Management of site hardware and in charge of third party software installation and upgrading.

1993 - 2000, Senior CAD Engineer, Bechtel Water Technology, Warrington.

Worked as a software engineer and numerical analyst.

- I built a numerical methods library for the analysis of hydraulic networks, modelling the network elements and solving the associated differential equations.
- I created a software tool for the solution of mass-balance equations derived from the prototyping of process flow diagrams.

1986 - 1993, Research Associate, Department of Computer Science, The University of Manchester.

Worked in Electronic CAD group on a number of projects involving hardware simulation and CAD language interworking.

1985, Senior Software Engineer, Marconi Secure Radio Systems, Kidsgrove, Staffordshire.

1978 - 1983, Voluntary work for a group helping to assist the unemployed. I also joined a community running a conference and counselling centre (Scargill House Ltd.) and was part of the staff helping to run the centre and plan the conferences.

1975 - 1978, Software Developer. CAP (Northern) Ltd., Alderley Edge, Cheshire.

Computer Language Skills

Language	Operating System	Example Application
C++ / C	Unix/Linux	Electricity grid network design...
Visual- C++	Windows	..and User Interface design
Python	Linux/Windows	enhancement of power electronic tools
Java	Linux/Windows	Numerical analysis
Java	Linux	Automatic meter reading
Lisp	Linux/Windows	Emacs major mode design

Other Software Tools

Tool	Application Area
Postfix/Exim/Spamassassin	management of company email system
ssh/iptables	Safe management and use of LAN/WAN
Trac/Test Track	Enhancement/bug database, for scheduling tasks
svn, cvs, rcs	A variety of version control systems
SQLPlus/ODBC	CAD database and tool interfaces
WiX	Development of windows installers
XML	interchange of graphic & design data

Publications.

I have published and presented papers on my work at a number of international conferences, details are available if required.

Educational Qualifications

1983-1984 MSc in Computing, Bradford University

1971-1975 Trinity Hall, Cambridge B.A. (III) - Mathematics and Theology

1965 -1970 King's School, Macclesfield Three 'A' levels

Other Information

Date of Birth : 1 November 1951

Marital Status: Married, two adult children

Interests: Music - listening and performing, I take part in various local festivals. Hill walking.

I have a working knowledge of French, both written and spoken.

References are available on request.

Jan 2014