

Robert A. J. Marshall

Personal profile

A senior software developer capable of creating innovative systems in smart metering and electrical distribution. I possess over ten years' experience developing complex applications for Python, C++ and Java in demanding environments. I enjoy working as part of a team to deliver solutions and develop new skills. I pride myself on providing clients with powerful and efficient programs.

Employment History

2016-2018 **Software developer**, *Codethink*, Manchester.

Support for the kernelci 'board at desk project' B@D - kernel testing using a VM within the user's local environment.

Maintained the genivi development environment (GDP). Using my Linux and Linux Kernel skills.

2010-2015 **Software developer (Contract work)**, *General Electric, Siemens, Rocksalt and Pyreos*.

- Design and implementation of Linux kernel modules for motion detection running on an Android device (**Pyreos**).
- 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.
- Developing 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 (**Rocksalt**). 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 a proprietary Fortran-like language.
- Trained in Agile methods and used Test Driven Development.

2007-2009 **Senior software engineer**, *TNEI Services Ltd*, Manchester.

Developing electricity grid network modelling tools

- Providing software and hardware support for company users and the network infrastructure.
- Maintaining and developing C++ software under Linux and Windows within the area of power systems simulation.
- Using Python to automate and enhance the capabilities of TNEI's electricity network modelling tool (IPSA+) for a variety of power utility companies.
- Managing company email system (using exim4 and spamassassin) and providing hardware and software support for the company.
- Liaising directly with the clients (Scottish Power and Northern Ireland Electricity) during application development.

- Assisting clients in analysis and adding functionality for the development of custom application software by developing python add-on modules with their own customer specified GUI. Qt was used to design the GUI and to implement the program/user interaction both in Python and C++.
- Responsible for the support and releases of the company software, maintaining the installers and ensuring that the software downloads were secured from access by users without maintenance contracts.

2005-2007 **Software Consultant**, *Various Clients*.

- Administering, installing and maintaining a variety of Linux distributions (RedHat and Debian based)
- Establishing mixed Linux/Windows networks and developing iptable knowledge in order to enforce safe practices.
- Developing 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.

- 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.

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

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 electrical power modelling tools
Java	Linux/Windows	Numerical analysis
Java	Linux	Automatic meter reading
Lisp	Linux/Windows	Emacs major mode design
Ruby	Linux/Windows	User interface to MySQL database of financial data

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, git, 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

Hobbies and interests

I enjoy listening to and performing music; I take part in various local festivals and also enjoy hill walking. I have a working knowledge of French, both written and spoken and continue to develop this in my spare time.

Education

1983–1984 **MSc**, *Bradford University*.

1971–1975 **BA**, *Trinity Hall, Cambridge*.

References available on request.

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