

## OBJECTIVES

- To position myself in an environment where I spend my time with technologies, problems and people who bring out the best in me.
- To avoid boredom by only taking on the most challenging and intellectually rewarding opportunities available.
- To avoid abject poverty by getting paid to avoid boredom.

## IT SKILLSET

### Core

Dynamically typed languages (**Python, Perl, Ruby**)  
Unix Systems Administration (**GNU/Linux, OpenBSD, FreeBSD, Solaris, OSX**)  
Web Application Frameworks (**Rails, Turbogears, Django**)  
**AJAX, DHTML, javascript** libraries; **Prototype, Mochikit, Dojo, Moofx**  
Messaging (**SMTP, SMS**) and messaging infrastructure (**Postfix**)  
RDBMS (**MySQL, PostgreSQL, SQLServer**)  
**Test-driven**, iterative, **agile** development  
Version control systems (**Subversion, CVS**)  
**Machine learning**  
**Automated monitoring, forecasting, data mining and classification**  
**Operations research**

### Other Commercial Experience

**Apache** and traditional web technologies including **HTML, CSS** etc.  
**XHTML, XML, XSLT, RSS, Atom, Microformats, RDF, Semantic Web**  
**Web services** and service/resource oriented architecture – **SOAP, XML-RPC, REST**  
**SSH** and other practical cryptography (such as **GnuPG/PGP, SSL, SSHFS, )**  
Generally **Security aware** (especially **firewalls, proxies, spamfighting** and server-side antivirus)  
Microsoft software including **Exchange, Server2003**  
Routing, **iptables, pf, TCP/IP** and networking in general (**LDAP, NIS, NFS, Samba, DNS** etc.)  
Application programming in **Tcl/Tk, C++, C#, PHP**  
Virtualisation (**VMware, UML, Xen**)  
**GPS** and mapping/**GIS** systems

### Postgraduate-level academic experience

Programming in **C, x86 assembler, FORTRAN**  
Developing **DSP** and image processing algorithms  
**LaTeX**

### Personal Projects/Interests

**Functional/Declarative Programming** languages and techniques (**Oz, Haskell, Scheme, Prolog, Groovy**)  
**Io** (a relatively new language similar to Self, Smalltalk)  
Advanced **Computer Music** technologies, **Csound, Open Sound Control, Supercollider, Pd, Chuck**  
Parts of the **Java** ecosystem – **Groovy, Eclipse, Jython, Rhino, JRuby, Blue, GWT**

## SUMMARY

- Broad knowledge of technology in general and deep knowledge of Free and Open Source IT solutions.
- Outstanding analytical, problem-solving and mathematical skills.
- An excellent communicator.
- Adaptable and resourceful; comfortable with rapid change and multitasking.
- Can work either independantly or as a team player where appropriate.

I pride myself on the ability to pick up new skills quickly, and choose the right tool for the task. My '*on-paper*' skillset is of course wider than outlined here, but I have limited it to those which best describe my capabilities in reality. If there is a technology that you wish to see evidence of my ability in I may well be able to supply proof of understanding and experience - whether or not it is actually listed above.

Outside of purely technical abilities I am focused on rapid prototyping, ruthless refactoring and test-first methodologies. Good documentation and continuous, clear communication with the eventual users is critical to successful delivery. I believe, architecturally, that solutions should firstly have a simple and logical internal structure but should also be general and extensible to suit changing priorities and varied problem spaces.

## EXPERIENCE

### Senior Software Engineer – Re5ult Cambridge (Aug 2007 - present)

Re5ult are the company behind the Texperts service, which answers questions on any subject via SMS. A mixture of NLP and AI technologies and teams of researchers working remotely provide the answers. I worked on a set of in-house web applications and workflow improvements. I developed per-customer personalisation, bespoke asynchronous messaging systems and a content-scanning marketing engine. I also worked on evaluating third party algorithms.

### Software Engineer/Sysadmin – Mail Distiller Belfast (Aug 2006 – Aug 2007)

I worked as part of a small technical team at this start-up company with extremely wide ranging duties including on-call support and customer service, systems maintainance, troubleshooting, and quality assurance. My primary role is as a network applications developer, and I was the lead programmer for the company's flagship *Pure* email content analysis framework. I was also responsible for a complete redesign and rewrite of the user interface using flexible 'web 2.0' technologies rather than the 'active pages' model that was being used previously. Most of the rest of my time was spent on maintaining and extending the core business of managed antispam and antivirus systems in both R&D and systems integration. I have also contributed to database integration projects, developed a suite of monitoring and diagnostic software for their high availability SMTP and SQL cluster and worked on systems security. Systems admin responsibilities were shared between myself and another developer. During this period I insisted on a professional development environment, and took responsibility for implementing version control, backup, change management, collaborative documentation and a comprehensive testing system. I also developed statistical analysis techniques, and process improvements with measurable effect. I am proud to say that in my time with the company we have reached 99.5% classification accuracy on several occasions, and grew to become the largest bandwidth user in Northern Ireland.

### Systems Administrator - G4S Belfast (May 2005 - June 2006)

My primary responsibility was originally to maintain and phase in the replacement of the legacy vehicle positioning system. As the result of personnel changes brought about by the merger between Group 4 and Securicor I quickly found myself both the corporation's sole 'Systems & Networks' professional in Northern Ireland and the only person with experience of the very complex in-house application at the core of the tracking system. I worked with a number of remote programmers, hardware engineers and systems integrators to deliver a replacement solution while simultaneously supporting the corporate IT infrastructure and providing technical support to customers.

### Software Engineer - Northbrook Technology NI Belfast, Chicago (Feb 2004 - Oct 2004)

I worked as a member of a team supporting two ancient and byzantine, but critical, life insurance programs for Allstate Corporation. In this role I gained an appreciation for the benefits and shortcomings of various software development and quality assurance methodologies, including regression testing, code reviews, pair programming and the CMM.

### MSci Physics with Astrophysics (2002) Queen's University of Belfast

At university I worked on the *occultation technique* for the discovery of extrasolar planets, performing software feasibility studies for the development of the multinational SuperWASP experiment now in place at La Palma. This firstly involved time-series precision aperture photometry on a set of CCD exposures, followed by statistically processing the resultant signal matrixes. The aim was to detect fluctuations in the luminosity of stellar objects which could indicate a composite nature. Other education includes A-levels AAB, GCSE two A\*, six A and B including English, German, Maths