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To invent, you need a good imagination and a pile of junk. -- Thomas Edison

Certainly the game is rigged. Don't let that stop you; if you don't bet, you can't win. -- Robert Heinlein, "Time Enough For Love"

The reward of a thing well done is to have done it. -- Emerson

When it's dark enough you can see the stars. -- Ralph Waldo Emerson

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1. Objectives

To further my skills and knowledge in the computing field, particularly in the areas of networking and network protocols, communications, distributed and redundant systems, operating systems, and programming languages; to develop (and promote) industry professionalism without ever compromising my ethics and integrity; to champion for the widespread adoption of open standards; to improve the efficiency and quality of both personal and team work practises; and to establish positive inter-personal relationships.

2. Personal Ambitions

To persuade people to smile - and enjoy myself in doing so; to be generous yet discerning; to experience life through the eyes of others; to be a paramedic; to be a fire fighter; to work for Medecins Sans Frontieres (MSF); and to live to see the Open Source software development paradigm deliver information freedom (and knowledge) to the world.

3. Education

3.1. Postgraduate

- May-2009 to Jun-2009 - Participated in French (beginner intensive) course at the Alianza Colombo Francesa (Alliance Française Colombie), Manizales, Colombia.
- Sep-2007 to Dec-2007 - Participated in Spanish language and culture course at the University of Salamanca, Ávila Campus, Spain. Participado en el Curso de Español (Lengua y Cultura) realizado en la Universidad de Salamanca, Campus de Ávila, España.

3.2. Tertiary 1997 - 2000

- May-2001 - Admitted to the Honours Degree of Bachelor of Computer Science, Monash University, Clayton Campus, Melbourne, Australia.
- 2000 - Authored thesis on 'Fuzzy Logic -based load balancing of Internet servers'.

3.3. Secondary 1991 - 1996

- Tertiary Entrance Rank Achieved (max. 99.95): 99.65.

4. Skills and Knowledge

4.1. Languages

- Native / C2: English
- Upper-intermediate / C1: Spanish / Español
- Beginner / A1-A2: Portuguese / Português
- Less than beginner / -A1: French / Français, German / Deutsch, Swahili / Kiswahili, Auslan - Australian Sign Language

4.2. Experience with

Protocols

Mobitex / MASC / MPAK / MDOT, DataTAC, SMS / GSM 03.40, SS7, Nokia Smart Messaging, IP, UDP, TCP, SMPP, IPsec / IKE, IMAP4rev1, POP3, SMTP, HTTP, WAP, FTP, LDAP, SSH, SSL / TLS and others.

Operating Systems

Mac OS since circa System 3.0, Linux (since kernel version 2.0.x) RedHat / RHEL / CentOS, Mandrake, e-smith, Yellow Dog, LinuxPPC, Debian (my preferred distribution), Ubuntu, Knoppix, Palm OS 3.5.x / 4.x, MS Windows since 3.x, MS-DOS 6.x / 7.0, ULTRIX, Digital Unix / OSF, HP-UX, SunOS / Solaris, BSD/OS, OpenBSD since 2.x, FreeBSD since 4.x.

Languages

ANSI C, ANSI / ISO C++, Perl, Python, shell / Bash, SQL, Ruby, Go, Java, Groovy, HTML / SGML / XML / XSLT, JSON. YAML, WML, CSS, PHP, Tcl / Expect, R, Lisp, MIPS Assembly, Pascal / Delphi, PowerShell, Visual Basic, Javascript / ECMAScript, etc.

Software (Development)

Git, Mercurial, Subversion, Jira, Trac, Bugzilla, Mantis, CVS (WinCvs / CvsGui, etc.), make, autoconf, automake, AutoGen, GCC, GDB, DDD, Valgrind, PilRC, PRC-Tools, POSE, Microsoft Visual Studio, Watir, Selenium Mountebank, Node.js, and others.

Software (Administration and Network)

strace / truss, tcpdump, traceroute, ping, nc (netcat), ip, route, rsync, ssh, daemontools, AutoRPM, apt, dpkg and many other standard tools of the trade.

Software (Enterprise)

VMware, MySQL, PostgreSQL, Informix, Oracle Database, MongoDB, Apache HTTP server, Tomcat / JServ, JBoss, BEA / Oracle WebLogic, IBM WebSphere, Linux Virtual Server, qmail, Postfix, Sendmail, ProFTPD, vsftpd, OpenLDAP, Courier, Cyrus, and others.

Computing Concepts

Object-oriented programming, regular expressions, distributed systems, TCP/IP networking, Extreme Programming / Agile methodologies, operating systems and computer architecture, Ethernet, computer security, database management, queueing theory and more.

5. Work History / Experience

- Oct-2020 to current

  Latitude Financial Services 800 Collins St. Docklands VIC 3008 *Australia*

  Senior Cloud Engineer - Site Reliability Engineer - Cloud (AWS)

  Technologies and tools Docker, Buildkite, Datadog, Sumo Logic, PagerDuty, Python, Go, GNU Make, Bash, Maven, NodeJS / JavaScript, Java / Spring, Linux (Alpine), HAProxy, Kafka, Terraform, AWS (IAM, ECS, EC2, DynamoDB, CloudFormation, Service Catalog, PrivateLink, Transit Gateway), Atlassian Jira and Confluence.

  Supported multiple teams by troubleshooting failures in CI/CD build pipelines.

  Identified optimisations and improvement opportunites in designs and implementations (quality, security).

  Debugged networking issues (packet duplication, Nagle, NAT).

  Provided 24/7 on-call support.

  Assisted AWS Transit Gateway implementation. Assisted migration from GitHub Enterprise to GitHub Cloud.

  Debugged and fixed IAM policy issues.

  Developed, tested and reviewed infrastructure code.

- Jun-2019 to Oct-2020

  National Australia Bank 700 Bourke St. Melbourne VIC 3000 *Australia*

Senior Analyst (DevOps and Automation)

Technologies and tools Docker, Jenkins, Gradle, Groovy, Ansible, Python, Java / Spring, Python, NodeJS / JavaScript, WebSphere Liberty Profile, Apache Tomcat, NGINX / Kong, HAProxy, IBM WebSphere MQ, F5 BIG-IP, Confluent Kafka, Solaris, Linux, AWS (IAM, ECS, RDS, EC2, CloudFormation, DynamoDB), Gatling, Splunk, SonarQube, CheckMarx, Grafana, InfluxDB, Splunk, AppDynamics, Atlassian Jira and Confluence.

Supported multiple Agile Scrum teams by troubleshooting failures in CI/CD build pipelines. Identified optimisations and improvement opportunites. Assisted performance testing and analysis.

Identified and fixed Java application performance issues (Spring Boot 2.x TaskExecutor thread pool configuration and tuning, Spring Framework MimeTypeUtils java.util.concurrent.locks defect).

Reduced project delivery time and cost by avoiding unnecessary change and "keeping it simple".

Led multiple, non-trivial, X.509 client authentication and web server authentication certificate deployments (i.e. renewals) into live production systems without service interruption or incident.

Tuned LDAP query to noticeably improve user log-in experience. Debugged and fixed IAM policy issues involving various AWS services including KMS, S3, VPC endpoints, EC2 Auto Scaling Groups.

Developed, tested and reviewed application and infrastructure code. Reviewed and assisted infrastructure and database design.

- Feb-2018 to Jun-2019

  Deloitte 550 Bourke St. Melbourne VIC 3000 *Australia*

  Director (Platform Engineering)

  Government Assisted "hybrid" Agile project planning using Atlassian Jira and Confluence.

  Superannuation Automated testing (Java, Selenium, React, Salesforce).

  On-line wagering Assessed (Agile) software delivery process. Reviewed AWS (PHP, Docker, Java, .Net) infrastructure solution design and architecture.

  Credit reporting Reviewed and tested (.Net, SQL Server) infrastructure solution design and architecture. Identified performance bottlenecks and tuning opportunities using Riverbed SteelCentral AppInternals, dotPeek decompiler, dotTrace profiler and SQL Server Management Studio.

Telecommunications Delivered (DevSecPerfEtcOps) automation and integration proofs of concept using Splunk, Atlassian Bamboo / Jira / Bitbucket, Jenkins, Docker, New Relic, Dynatrace, Tenon.io, ZAP Proxy, Burp Suite, Nessus, HP MicroFocus LoadRunner / Performance Center, Selenium, Watir, JMeter, Gatling, AWS, Pivotal Cloud Foundry, CA DevTest / LISA, HAProxy. Administered Splunk and tuned Splunk queries. Assisted performance testing (Microsoft Dynamics 365, Salesforce, TIBCO EMS).

- Apr-2017 to Jan-2018

  National Australia Bank 200 Victoria Pde. East Melbourne VIC 3002 *Australia*

  Senior Consultant

  Cloud (AWS) Infrastructure Developed, tested and supported infrastructure (IAM, VPC, EC2, S3, Direct Connect, etc.) as code using Puppet, Packer, Terraform, Python, etc..

  Developed, tested and / or supported infrastructure services (VMware ESX, Akamai, NGINX Plus, Squid, DNS / BIND).

  Assisted with Pivotal Cloud Foundry proof of concept.

  Automated "toil" work involving Jira, Confluence, email, Jenkins, etc. using Selenium, Bash, Python, Ruby, etc.

- May-2012 to Apr-2017

  National Australia Bank 700 Bourke St. Melbourne VIC 3000 *Australia*

  Senior Performance Engineer

  Delivered major re-engineering (distributed API microservices [sic]) and re-platforming (virtualisation) projects servicing retail and business customers.

  Identified and resolved multiple SSL / TLS bottlenecks - Solaris 10 and Java 8, HAProxy, Apache HTTP Client 4, IBM z Mainframe.

  Identified, diagnosed and resolved system performance bottlenecks including Oracle database SQL queries (AWR), JMS over IBM WebSphere MQ, JVM garbage collection, JVM and native memory usage and leaks, code design (review / profiling), TCP/IP network stack, resource contention (threads, Java class loaders, operating system - CPU, memory, I/O).

Planned, developed, executed, analysed, and reported on performance tests using Gatling, HP ALM / Performance Center (LoadRunner). Monitored, visualised and analysed system performance and usage using InfluxDB, Grafana, Elasticsearch, Kibana, Logstash, Splunk, CA Wily Application Performance Management (APM) Introscope, hawt.io., Adobe Analytics / Omniture.

Promoted risk management. Streamlined non-functional requirements development. Forecast capacity (planning).

Systems reliability and performance engineering - analysis, design, development, testing, support, failure analysis and resolution.

Development and operations (DevOps [sic]), integration and infrastructure - AWS, Azure, Puppet, Ansible, Jenkins, Docker, Vagrant, Pivotal Spring (AOP / DI), Netflix Hystrix, Terracotta Quartz Scheduler, Hibernate, Play, Gradle, Apache Camel, Apache ActiveMQ, NGINX, HAProxy, Java J2EE, Apache Tomcat, Axway API Gateway, Oracle Database 9i / 10g / 11g, Microsoft SQL Server, iTrinegy network emulator, Thales SafeSign HSM, IBM - WebSphere Application Server Network Deployment, WebSphere Portal Server, WebSphere Liberty Profile, WebSphere MQ, Business Process Manager, Tivoli Access Manager - WebSEAL, IBM System z mainframe (CPACF), Linux on z/VM.

- Sep-2011 to Jan-2012

  The School of St Jude Moshono Campus PO Box 11875 Arusha *Tanzania* East Africa

  Systems Administrator / Database Analyst Developer / Network Engineer

  Network and systems, administration and support: Microsoft® Windows XP / 7 / Server 2003, Exchange, Active Directory, Group Policy (GPO), Kaspersky Anti-Virus, Windows Software Update Services (WSUS), Debian / Ubuntu / Edubuntu, VMware vSphere Hypervisor, Oracle VirtualBox, snort, arpwatch, Cacti, ntop, Nagios, Squid, DansGuardian, Endian Firewall Community, ClamAV, SpamAssassin, Unattended, Postfix, Trinity Rescue Kit (TRK), GNU mailman, pfSense FreeBSD -based firewall, NSClient++, OpenVPN, Iperf, MikroTik RouterOS -based wireless routers, Linux Terminal Server Project (LTSP), DHCP, Wake-on-LAN (WOL), PXE boot, etc.

  Issue / incident / problem management: Spiceworks. Source code version control. Mercurial / hg. Change / configuration management. Documentation and training.

  Database analysis and development: Microsoft® Access, Microsoft® SQL Server, SQLite, PostgreSQL, Perl, AutoHotkey, Bash.

  Climb Mount Meru and Mount Kilimanjaro.

- Nov-2010 to May-2011

  Australia Post 111 Bourke St. Melbourne VIC 3000 *Australia*

  Performance Test Analyst

  BEA WebLogic / Oracle, Tomcat / Microsoft® SQL Server, Win32 GUI "thick client" (Visual Basic, ODBC) application performance testing. HP LoadRunner / QuickTest Professional (QTP) / Quality Center, Ruby, Selenium, Python, GNU win32 regex / pcre DLL, Perl, sed, cURL and other tools.

  Test planning, execution, analysis, reporting, test script development. Data migration: LoadRunner, Perl, sed, etc. VMware ESX performance monitoring. I/O benchmarking: Iozone.

- Aug-2003 to Aug-2008

  PerformIQ Pty. Ltd. Level 6 170 Queen St. Melbourne VIC 3000 *Australia*

  Consultant / Professional Services

  Web-based project collaboration platform (JBoss, Lucene, Hibernate, ActiveMQ, JBoss, Spring, MS SQL Server) application performance regression testing. HP LoadRunner. VUGen script development. Performance workload generation / modelling and VUGen run-logic development. Bash, Python, SQLite.

  BEA WebLogic 7.0 J2EE / Informix performance testing. Mercury Interactive (HP) LoadRunner, Python, GNU win32 regex DLL, Perl, sed, cURL, etc.

  Performance monitoring, analysis and modelling. TeamQuest.

  Win32 GUI Progress 4GL "thick client" application performance testing. Python, Mark Hammond's win32 extensions.

  G-Log GC3 J2EE Web / XML application performance testing. Python.

  Medical patient billing system application integration. Java, Informix, Medicare Australia API.

  Desktop and server support: MS Windows Server 2003, Active Directory, MS SQL Server 2000, MS Windows XP / Vista, Mac OS X, Citrix / Remote Desktop, ACCPAC, PPTP / IPsec / OpenVPN.

  Java / Perl / Expect / Tcl / CGI integration application development. ARGOS Satellite Data Collection System.

Web site development. PHP / Typo3 Content Management System, PHP / MySource Content Management System, Macromedia Flash, etc.

MS Access / MySQL database pseudo-synchronisation. rsync and cURL. MySQL / PHP / SQL optimisation and performance analysis. Web-based financial reporting application.

Windows® library (DLL) development. Python / C / C++.

CGI application development. Perl / DBI, PHP and Python.

Network and systems administration: Windows® 2000 / XP / Server 2003, Active Directory, FreeBSD, OpenBSD, Check Point FireWall-1 Next Generation (NG), Amanda, UW imapd, UW ipop3d, Squid, NFS / NIS, autofs, Samba, WINS, DHCP, rsync, CUPS, BIND (DNS), Net-SNMP, MRTG / RRDtool, Courier IMAPD / POP3D, Apache, Postfix, AMAViS, ClamAV, firewalls / VPN / IPsec - iptables, pf / pfctl - NAT / DNAT / SNAT, FreeS/WAN, OpenSWAN, Cisco IOS.

- *Freelance IT Counselling*

  Web application development (Perl, CGI::Application).

  SMS / SMPP gateway development, maintenance and administration (C, Perl); integration with Mobileway, Vodafone and Optus SMSCs.

  Automated Web application testing (Selenium, WWW::Mechanize, curl, maxq, The Grinder, etc.).

  Systems administration (Cacti, ntop, snort, OSSIM).

- Mar-2005 to Sep-2007

  Symstream Technology Group Ltd. Level 1 3 Chester St. Oakleigh VIC 3166 *Australia*

  Systems Engineer / Test Engineer / Systems Administrator

  Network application software development, thread debugging, Valgrind memory checking, performance, integration and network systems testing involving such wonderful technologies as omniORB / omniORBpy (CORBA), PostgreSQL, JBoss, Tomcat, OpenNMS, Net-SNMP with AgentX sub-agents, VMware, NSA SELinux and OpenLDAP using C / C++ / Python / Perl / Shell scripts on carrier grade Intel-based hardware with Natural Microsystems (NMS) Communications Natural Access ISDN AG40xx telephony cards and Intel SS7 hardware (ISUP).

International systems deployment and staff training. 24x7 business partner support and fault analysis (predominantly using tcpdump / wireshark).

Automated win32 GUI and embedded Linux testing.

Systems administration: MS Windows 2003 Server, MS Exchange 2003, etc., Linux, OpenBSD, Mambo / Joomla CMS, smokeping, OpenVPN / OpenVPN GUI, Shorewall, named / bind, Courier IMAP, OpenLDAP, Postfix, Samba, VMware, vsftpd, and Cisco IOS.

- Nov-2001 to Jul-2003

  Aspect Data Pty. Ltd. (formerly dotWAP Pty. Ltd.) Level 2 71-75 City Rd. Southbank VIC 3006 *Australia*

  Technical Lead / Systems Administrator

  Linux / UNIX-style development in C / C++ utilising third-party libraries, including GNet, GLib, GMime, zlib, ImageMagick, AutoGen, GD, c-client, OpenSSL and dot.conf.

  Lead major re-engineering and clean-up effort involving the company's flagship Mobitex-to-IP gateway product; eventually completing a near total re-implementation using standard (reusable) third party libraries replacing legacy code, e.g. logging, configuration management, data structures. Conducted extensive (and exhaustive) memory debugging using Valgrind, dmalloc, Fortify, Electric Fence, etc.

  Wireless gateway [re]development involving Mobitex (Ericsson / Tyco International) and DataTAC (Motorola / Telstra) RF networks.

  Multi-platform PDA application development in Embedded C / C++ (Palm - PalmOS SDK, POSE, PilRC, PRC-Tools GNU cross-compilation tool-chain, GDB multi-segment debugger, distcc; CNI - CNI SDK, Cygwin, MS-VS (MS Visual Studio); Windows CE - Windows CE DDK, Pocket PC SDK, MS-VS; ARM Linux (Compaq IPAQ) - GNU cross-compilation tool-chain. Application prototyping using Java (J2ME, J2ME Wireless Toolkit, Ant).

  Lead development of email (IMAP, MS Exchange), Web browser (HTML, WML, iMode), and Jabber-based IM (instant messaging) PDA client and server applications.

  Windows library (DLL) and application (MAPI / Exchange) development.

  Maintained Windows cross-compiling build environments (Cygwin, mingw).

  WiFi / 802.11b administration and video conferencing application prototyping.

Compression (ZLIB - RFC 1950) and encryption (3DES) application integration.

XML-based SMS client and middle-ware / gateway development (Kannel, libxml, PostgreSQL, MySQL), and integration with Mobileway (Mobile 365, Sybase 365), Radius ED, Telstra, Vodafone and Optus SMPP SMSCs, providing a large gamut of SMS-based services, including premium services (i.e. reverse billing).

IPv4 low level protocol debugging (Linux kernel 2.2.x / 2.4.x, DIVERT sockets, lcrzo packet manipulation library).

GPG (PGP - Pretty Good Privacy) applications integration.

VPN / IPsec, FreeS/WAN, isakmpd, Cisco IOS.

CGI application development in Perl / DBI and PHP / ADODB / PEAR.

Systems Administration (Amanda, UW imapd, UW ipop3d, Squid, NFS / NIS, RPC (remote power control), autofs, Samba, WINS, DHCP, rsync, LPRng, AutoRPM, daemontools, qmail, BIND (DNS), Net-SNMP, MRTG / RRDtool, Cyrus IMAPD, Courier IMAPD / POP3D, ProFTPD, vsftpd, Apache, Postfix, procmail sanitizer, NAI VirusScan, firewalls - iptables, ipchains, pf / pfctl - NAT / DNAT / SNAT, a little password recovery on Windows NT / 2000, Cisco IOS).

- 1999 to 2002 (independent contracting)

  Various clients

  Systems Administrator / Developer