

Richard Guy Briggs - Resumé

Richard Guy Briggs
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CAREER SUMMARY AND SPECIALTIES:

- 22 years of programming experience
 - 17 years of experience in C in UN*X environments
 - Good attention to detail
 - Methodical, excellent analytical and organizational skills
 - Ability to work independently or in a team
 - Team Lead experience, ability to mentor and teach
 - Drive to follow projects through to completion
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- Linux kernel network programming
 - Embedded video hardware device driver programming
 - Telecommunications hardware device driver programming
 - Hardware debugging experience
 - Knowledge of protocols: IPv4, IPSec (ESP, AH, PFKEYv2), TCP, UDP, ICMP, HTTP, SMTP, SSL, BRI, PRI, ethernet, 802.3
 - Processors: x86, ARM9, PowerPC, MIPS, 68000 (68302)
 - Linux server admin of DNS, mail, listserves, DHCP, Apache, IRC, O/S installation, update, upgrade.

EMPLOYMENT DETAILS:

March 2009 - September 2009: **Term Software Engineer**
at [Amita Corporation](#) (Ottawa)

- Linux minimalist distribution customization.
- Linux O/S boot encryption survey.
- Survey state of Linux on embedded development or evaluation platforms.

December 2007 - October 2008: **Senior Software Engineer**
at [Axentra Corporation \(was OEone\)](#) (Ottawa)

- Researched Certificate Authority requirements to implement a Hardware Security Module-based signing authority for Customer Premises Equipment.

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- Brought up an RPM development environment on MIPS and ported RedHat ES4 and custom RPM packages from ARM/PPC/x86 to MIPS.
- Enhanced Perl release generation scripts for greater automation.
- Added features and fixed bugs in CPE from kernel up to web UI for Linux on x86, ARM9, PPC
- Execute performance testing on CPE to localize and eliminate bottlenecks

April 2004 - September 2007: **Senior Software Engineer**
at Lumenera Corporation (inc. 2002) (Ottawa)

- Design team member for new digital network surveillance cameras and adding features to existing models
- Code software for digital network surveillance cameras, from kernel modules, imager drivers, API and Javascript GUI
- Develop primarily in C, but also Python, Javascript, Unix shell
- Develop for Linux on ARM9, x86, Freescale (PPC) and TMS320C6xxx
- Perform Linux system maintenance on common facilities
- Acted as a mentor to junior and new team members

October 2003 - January 2004: **Software Engineer**
at startup Axigon Healthcare Technologies, (Inc. 2003) (Ottawa)

- Assessed and instrumented Speex patent-free speech codec as to suitability for porting to a potential product platform
- Contributed to design of network protocol and started development of network code for a future product
- Worked with 3 different platforms including Linux-x86 userspace, Uvicom IP2022 SDKv5.4 and Microchip PIC 18 family

November 1997 - June 2003: **Software Engineering Contractor**
FreeS/WAN Project (Internet)

- Maintained and augmented KLIPS, the kernel portion of this IPsec implementation for Linux.
- Matured the FreeS/WAN kernel code to clear SADB and SPDB, unload module, statically link.
- Implemented the PF_KEY_v2 socket family for the Linux kernel for use in FreeS/WAN.
- Added a library to implement PF_KEY_v2 message building and parsing, shared by userspace and kernel space.
- Reviewed and Integrated patches and features from open source contributors.
- Maintained manual keying userspace utilities.
- Participated in IPsec protocol development activities by attending IETF (Internet Engineering Task Force) meetings.
- Tested packaging and interoperation.
- Participated in IPsec interoperation workshops (bakeoffs) between IPsec vendors.
- Made professional conference presentations in Ottawa (Ottawa Linux Symposium (OLS) - multiple years, SANS 2000), Sweden (NordU 2000), Paris (IPsec), Germany (Linux Kongress 2000), Australia (Sydney Linux Expo 2000).

July - August 1997: **Software Engineering Contractor**
Vitana Corporation (Gloucester) (now trading as Pixelink)

- Device driver porting from SolarisPC 2.5 to SCO OSR 5.0 UNIX for a family of multi-line (T1, E1, ISDN) telecommunications SCSA/MVIP cards.

January - June 1997: **(International Volunteer Work)**

January 1995 - December 1996: **Software Engineer**
Vitana Corporation (Gloucester) (now trading as Pixelink)

- Maintained and developed device drivers for Mitel ISA bus telephony cards (dual T1, dual E1, 8-line ISDN), some with embedded 68302 processors, under SCO UNIX, UnixWare, OS/2 and Solaris,
- Hardware and software documentation for ShapeGrabber, a 3-D laser imaging PCI processor with accompanying API,
- Hardware documentation and software development for PCI to Motorola Qbus bridge chip evaluation board.
- In-house NetWare, Solaris, MKS SI Configuration Management, UNIX and TCP/IP network support.

EDUCATION:

1988 - 1993: **B. A. Sc., Computer Engineering , Cum Laude (Honours)**
University of Ottawa

- Final year project: Speech recognition employing artificial neural networks.
- Extracurricular: University of Ottawa Solar Car Project Electrical Systems Co-ordinator, see RALOS

RELATED SKILLS:

Operating Systems: Linux (Debian, Ubuntu, Redhat, SuSE, Caldera, Slackware, SLS). Historical: OpenBSD, MS Windows/NT, MS-DOS, UnixWare, Solaris, SCO UNIX, Netware, IRIX, OS/2, MacOS, ULTRIX, AIX, Interactive UNIX, CMS/VM, RT-11/RSX-11/TSX-11

Languages: ANSI C(gcc, cc), bash, perl, HTML, Python, Javascript. Historical: ARM9 assembler, 80x86 assembler, MS Visual C, 683x0, MSAccess SQL, 680x0, Prolog, dBase III+, Fortran IV, Lotus 123, Turbo C, Turbo Pascal, MSBASIC, Waterloo Structured BASIC.

Other: Interpretation of schematic diagrams and technical drawings; Use of oscilloscope, network analyzer,

and Optical Time Domain Reflectometer; Competent in dealing with computer viruses and recovering data errors.

OTHER EXPERIENCE:

January 2002 - Present: **Co-founder/IT admin**
Human Powered Vehicle Operators of Ottawa club

- Set up and maintain an email list and web pages.
- Organise and represent the club at public events promoting Human Powered Vehicles.
- Designed and built a tandem-axle 4-wheel bicycle trailer capable of hauling 3/4 ton

Experimental Solar Vehicle Competitions:

- 2008-07: American Solar Challenge Dallas to Calgary via Winnipeg **Staff Photographer (Canadian leg)**
- 2007-10: World Solar Challenge Darwin to Adelaide, Australia **Staff Photographer**
- 2005-07: American Solar Challenge Austin to Calgary via Winnipeg **Staff Photographer (Canadian leg)**
- 2001-07: American Solar Challenge Chicago to L.A. **Staff Photographer** Photos used in 2003 Official Rayce Programme
- 1999-06: Sunrayce Washington, DC to Epcot, FL **Staff Photographer** Photos used in 2001 and 2003 Official Rayce Programmes
- 1997-06: Sunrayce Indianapolis to Colorado Springs **Observer**
- 1996-06: Canadian Solar Discovery Challenge **Chief Electrical Scrutineer/Jury Member/Observer Manager**
- 1993-10/11: World Solar Challenge **Technical Assistant/Technical Observer**
- 1992-1993: Sunrayce Dallas to Minneapolis **Electrical Systems Coordinator** for Team RALOS II

Green Party

- 1999-present: Green Party of Canada **Host and moderator of email lists**
- 1999-2003: Green Party of Ontario, Ottawa-Vanier **Electoral Constituency Association President**
- 1999: Green Party of Ontario, Ottawa-Vanier **Electoral Candidate**
- 1997: Green Party of Canada, Ottawa-Vanier **Federal Electoral Candidate**

September 1997 - May 2003: **Founder/Chief Architect/Chief Administrator**
Conservation Co-operative Homes Network Committee (Ottawa)

- Designed and built a 3-closet, 60-node ethernet network in an 84-unit, 4-storey residential apartment building.
- Pulled and trained people to pull Cat-5 100-base-T wire through conduit to each apartment.
- Set up a dual-homed ADSL Linux firewall with a routable /24 and an extruded routable /26.

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- Set up a Linux server to serve smtp, ssh, dns, http, pop3, imap, dhcp, smb.
- Connected and configured clients on a variety of platforms.
- Administered user accounts.
- Executed remote backups.

January - April 1997: **Volunteer Work Term in a Home for Destitute Children** Child Haven International - Canada/Nepal (Kathmandu)

- Tutoring math, english, science to Grade 1 to 4; leading children on excursions
- Helping paid staff with duties and performing electrical repairs in the home
- Assessing curriculum for and teaching Computer Studies: Grade 7 to 9
- Providing guidance and experience to Science Clubs: Grade 6 to 9

August 1996 - 2004: **Co-founder/Collator/Credits** C C Food Club (Conservation Co-operatives Homes)

- Collate members' orders and submit total order to supplier monthly
- Work with the treasurer to update finances

February 1996 - January 1997: **Maintenance Committee Chair** Conservation Co-operatives Homes (Ottawa)

- Provide an agenda and leadership in committee meetings
- Interact with co-op memvrs and externals concerning maintenance issues

May 1995 - 2003: **Telephone Contact/Membership Secretary** Auto-Free Ottawa

- Direct telephone enquiries to appropriate people and manage membership list
- Attend public meetings and demonstrations to educate the public about issues concerning automobile use, societal dependance and addiction

March - April 1994: **Jackeroo** (paid for trip to China) Nookawarra Station (Western Australia)

- Aerial mustering of sheep by motorcycle and yard duties during shearing.

January 1994: **Volunteer Neural Network Researcher** Department of Electrical Engineering, University of Queensland (Australia)

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- Explored node splitting feasibility and techniques, and explored simulation software.

1991 - 1993/1997 - 2000: **Technical Producer for weekly public affairs show, volunteer**
CHUO FM 89.1, University of Ottawa / CKCU FM 93.1, Carleton University

1983 - 1995: **Operator, sound system for weddings, memorials**
First Unitarian Congregation (Ottawa)

1984 - 1986: **Head of Technical Stage Crew**
Fisher Park High School (Ottawa)

MEMBERSHIPS:

Citizens for Safe Cycling (CfSC), (since 1995), current list host
Human Powered Vehicle Operators of Ottawa (HPVOoO), (since 2001), founding member
Ottawa Canada Linux Users Group (OCLUG), (since 1998), founding board member
Green Party of Canada (GPC), (since 1995) / Green Party of Ontario (GPO), (since 1995)
CAMMAC (amateur music association), (since 1970)
Auto-Free Ottawa (AFO), 8 years
OCRI UNIX (OCUNIX), 8 years
IEEE, 5 years
BRMNA (british railway modellers), 7 years

INTERESTS:

Music:

- Grade VIII Recorder, Grade II Theory; Bassoon, 5 years; Trumpet, 2 years; Digeridoo

Photography:

- Staff photographer for 5 international solar car races

Outdoors:

- Bicycle touring
 - ◆ Australia - 5000 km, summer '93/94
 - ◆ Victoria to Montreal - 6000 km, summer '91 - raised ~ \$7300 for USC Canada
 - ◆ Cuba - 1000 km, September 1998, honeymoon
 - ◆ UK - 400 km, tandem trike, April 2002
 - ◆ Ottawa area - 280 km, Thanksgiving, yearly
- Skiing (downhill and cross country winter camping)

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- Canoe tripping (camp, 6 years)
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