Noel Burton-Krahn, M.Sc.

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Professional Summary

I am a Senior Software Engineer and Systems Architect with over 30 years of diverse experience. My particular interests lie in distributed concurrent systems, signal processing, and machine learning.

I am seeking a role where I can contribute to the design and implementation of reliable and useful products. I enjoy working independently or collaboratively, and mentoring others. I value strong opinions and respect for other perspectives.

I am Canadian, currently residing in Setúbal, Portugal. I have a Netherlands residence and working permit. I am available to work in the EU, US, and Canada. References and sample code are available on request.

Education

M.Sc., Comp. Sci., University of Victoria	*Victoria, BC, 2002*
B.Sc., Comp. Sci./Math/Physics (honours) University of Victoria	*Victoria, BC, 1994*

Skills

Software	**Master:** C/C++, Python, Perl, sh/script, [C]make, Git, CI/CD, testing **Expert:** C#/.Net, Java, JavaScript, Groovy, Travis, JIRA, Spring **Hobbyist:** Golang, Elixir/Erlang, Prolog, TLA+
OS / Cloud	Linux, Windows, Docker, Kubernetes, Gcloud, real-time systems, AWS, Cloudrun
Databases	PostgreSQL, MySQL, SQLite, DB2, MS SQL Server, ArcGIS, Oracle
Data Science	Math, signal processing, filters, Matlab, scipy, jupyter, pytorch, keras, neural nets, genetic algorithms
Graphics	3D, OpenGL, ffmpeg, threejs, d3, VTK
Web apps	Django, Phoenix, jQuery, HTML/CSS, Vue, Flask, Flex
Networking	TCP/IP, SSL, HTTP, DNS, STUN, SDN
Leadership	Project Management, Mentoring, Regulatory Compliance, Quality Management

Work Experience

Avy Drone Networks – Head of Software (Leadership, C++, Robotics) *Amsterdam, NL, Nov 2024 – Aug 2025*

Head of software department and senior developer. Supervised four developers, hired two more to develop an autonomous fixed wing drone using PX4 (C++, QT).

Prolira – Head of Software (Leadership, C++, Octave, Python, Data Science, Signal processing) *Utrecht, NL, Jan 2019 – Aug 2024*

Lead software architect and developer. Project management, system architecture, medical regulatory compliance, quality management, and documentation. Developed medical device with FDA approval, gcloud infrastructure for data warehousing and machine learning training. Designed web portal for remote device data acquisition and customer support.

Clinezeman – Data Scientist (Octave, C++, Algorithms) *Victoria, BC, Apr 2017 – Jan 2019*

Developed machine-learning application for biomedical signal processing: Matlab, Python.

Cisco, Piston – Senior Distributed Systems Engineer *San Francisco, Jun 2013 – Apr 2017*

Developed System control software for OpenStack Clusters, SDN, and virtualization

Kal Tire – Senior Developer, Business Analyst (Groovy) *Vernon, BC, Jan 2012 – Jun 2013*

Analyzed, designed, and developed enterprise retail system, point of sale and inventory.

Clover Point Cartographics – Software Developer (C#, ArgcGIS) *Victoria, BC, Mar 2011 – Jan 2012*

Developed ArcGIS server application for Elections BC: ArcGIS, Oracle, Python, C#

Telocate Systems – Software Developer (Python, Flex) *Victoria, BC, Sep 2010 – Mar 2011*

Developed Google maps application for remote device tracking: Flex, Python, Twisted, PostgreSQL

Eightfold Logic – Software Developer (Perl, Flex) *Victoria, BC, Aug 2008 – Sep 2010*

Developed web application in Flex, Perl, and MySQL for search engine analytics.

Washington State DOC – SW Integration Specialist (Java, DB2) *Olympia, WA, Nov 2007 – Aug 2008*

Defined system specifications and developed application in Java running under WebSphere on a Z/OS mainframe with DB2 database.

Kodak, Inc – SW Engineer (C#, Java) *Victoria, BC, Feb 2006 – Nov 2007*

Worked in a team developing a web portal for commercial printers in C#, Java, IIS.

Gatekeeper Systems, Inc – Lead Engineer (Perl, C++, OpenGL, Linux) *Abbotsford, BC, Apr 2003 – Feb 2006*

Developed a Linux-based portable digital video surveillance system, and a Windows video playback application using VB.NET, C/C++, Perl, OpenGL, SQLite.

Kronofusion - Lead Engineer (Perl, C++, TCP/IP) *Vancouver, BC, May 1999 – Feb 2003*

Developed Kronofusion's remote desktop access program. This included C++ firewall tunneling encrypted TCP servers, and a complete mod_perl application for HTTP access to files, Outlook, Express, and virtual desktop sharing (similar to VNC or PC Anywhere).

Mercurial Communications - Chief Technical Officer *Victoria, BC, Jun 2001 – Sep 2002*

As CTO, I recommended technical solutions and managed projects.

FaxPC - Developer (C++, Perl, Linux) *Vancouver, BC, May 1999 – May 2001*

Developed a Linux/Gnome fax viewing application, a Windows fax viewer, and an Apache/ASP fax-to-HTML web application.

Burton-Krahn Inc – Freelance Software Developer *Victoria, BC, Jun 1998 – Present*

I have developed several applications on my own.

BKBox A Linux-based office server that provides OpenAFS for remote file access, secure IMAP email access, a web server, and acts as a network firewall/gateway.

HotSwap A Linux kernel enhancement that replicates running servers on independent computers for instant seamless failover, preserving TCP connections.

NatNix A firewall-tunneling peer-to-peer VPN in C++ for Linux and Windows.

GEMS, ITSD, BC. Gov - Developer (Perl, Linux) *Victoria, BC, Jun 1998 – May 1999*

Worked on an Apache/Perl/MySQL application for BC government program listings.

CardioComm – Research Developer (Algorithms, C++, VB) *Victoria, BC, May 1994 – Jun 1998*

Developed Windows software for ECGs using C/C++, Visual Basic, MFC and OLE. I have worked on many projects at Harley Street from ActiveX ECG controls to ECG signal processing.

Power Measurement, Ltd. - Co-op Software Engineer *Victoria, BC, Jun 1993 – Sep 1993*

Developed real time communication software to communicate with a power meter. The software was developed in C++ under MS Windows.

Pacific Forestry Center - Research Programmer *Victoria, BC, Sep 1992 – Dec 1992*

Developed an expert system to integrate and interpret remote sensing data, image processing packages, GIS, and modeling software for forestry applications.

Dominion Radio Astrophysical Observatory (DRAO) – Research Programmer *Penticton, BC, Jan 1992 – May 1992*

Designed and developed software to simulate a hardware correlator used to combine the signals of radio antennae. The simulation was developed in Matlab and C and ran on Sun Sparc stations and IBM RISC 6000s.

Publications

US Patent #20,080,208,711 *Kodak, Inc, 2008*

"Print Pricing." Calculating print pricing with online spreadsheets.

US Patent Application #2004/0153,709 *Burton-krahn, Inc, 2004*

Method and apparatus for providing transparent fault tolerance within an application server environment.

HotSwap -Transparent Failover for Linux Servers *USENIX LISA XVI, Nov 2002*

Technical details of HotSwap's ability to replicate server's internal memory state and external network state.

US Patent #5,758,654 *Harley Street Software, June, 1998*

"ECG P-QRS-T Onset, Offset and Peak Detection Method and Apparatus." An algorithm for detecting features in ECG signals.

Awards

NSERC Operating Grant No. A7847 National Research Council, IRAP Project No. 42370w. *Harley Street Software, 1995-1997*

Research grants for developing and ECG feature detection algorithm. Total approx. $750,000 for project development

NSERC Undergraduate Research Award *UVic, May 1991*

Summer student research grant for working at UVic.

Personal Interests

I have raised two amazing adult sons and been a scout leader. I love acro yoga and dance acrobatics, and enjoy canoeing, sailing, and anything on or in water. I enjoy keeping fit and exploring cultures and places.

Conclusion

Thanks for reading all the way to the end! I would love to learn more about your projects and I hope I can contribute to your success. Looking forward to hearing from you.