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KIPLING CONRAD SINGH WARNER

QUALIFICATIONS

- H2S Alive© Certificate [Petroleum Industry Training Service]
- Workers Hazardous Materials Information System [Virtual WHMIS]
- Possession and Acquisition, Non-Restricted / Restricted [Chief Firearms Officer of British Columbia]
- First Aid Standard Enhanced [St. John Ambulance BC / Yukon Council]
- First Aid Level C CPR Rescuer [St. John Ambulance BC / Yukon Council]
- Student Pilot Permit [Transport Canada]
- Aviation Medical Category I [Transport Canada]
- Aeronautical Radiotelephone Restricted Operators Certificate [Industry Canada]

EDUCATION

Bachelor of Science

Cognitive Systems: Computational Intelligence & Design

University of British Columbia Vancouver, Canada 2007

Associate of Science

General Science

Kwantlen University College Surrey, Canada 2006

PROFESSIONAL EXPERIENCE

President, Chief Executive Officer, Chair of the Board

Kshatra Corporation White Rock, Canada July 2009-Present

- Responsible for overseeing project management, research, design, and development of an undisclosed large scale project as well as public relations, budgetary project allocations, and finances.

Sessional Instructor

Art Institute of Vancouver Burnaby, Canada Apr. 2009-June 2009

- Dean's Faculty Observation Summary noted "*he has very high standards and expects the most of his students. He is a natural instructor and has a gift at explaining complex subject matters simply.*"
- Provided college level instruction at an academic institution to students for first year, second semester, with an introduction to the C++ programming language (VG1112), supplemented with professional industry experience.
- Handled assignments, evaluation, and feedback for students.
- Established learning objectives, classroom discussions, expectations, prepared detailed lesson plans, and undertook faculty training.
- Emphasis placed on ANSI/ISO standardization, GNU coding standards, and portability.
- Combined technical aspect of language with social and ethical dimension of software generally overlooked through an exploration of the *software libre* literature.
- Used social and ethical dimension to foster a sense of good citizenry through

the gentle avoidance of unethical software use and development.

- Integrated subversion as means of assignment submission and feedback.

Software Project Engineer

Manufacturing Automation Laboratories Vancouver, Canada Feb. 2009-June 2009

- Lab performs leading-edge research on advanced manufacturing methods & develops commercial software used by medium / large scale international companies located in North America, Europe and Asia.
- Porting to standards compliant environment.
- SCons Automake-like config.h enabled environment, while still backwards compatible with non-free dependent code and legacy non-free build systems.
- Algorithm optimization and refactoring of core milling engine component in computationally heavy *Virtual Machining System*, software based Computer Numerical Controller emulator.
- Used C, C++, GCC, GDB, GEdit, gprof, IRC, NASM, POSIX, Python, SCons, STL, Ubuntu Intrepid, and Valgrind.
- Wrote hardware-accelerated functionality interfacing high level C++ classes with hardware level 32-bit protected mode assembly exploiting SIMD (MMX, MMX2, SSE, SSE2) processor extensions for performance bottlenecks, after profiling and testing.
- Required intimate understanding of 80x87 and 80x86 internal hardware, as well as IEEE 754.

Software Engineer

Rocket Gaming Systems Vancouver, Canada Sept. 2008-Dec. 2008

- Independent software engineering consultant involved in both design and development of code in C/C++.
- Developed MachineAccessReporter software to enable audits of access to electronic resources via Winlogin Notification API and Windows Service API.
- Worked on optimizations of FastPlay Controller with Intel Vtune and IBM Rational Purify instrumentation, activity simulator, and remote debugger to provide analysis report for superiors to consider recommendations.
- Ant, gedit, NSIS, SCons, Subversion, Visual Studio 2003, and VMWare heavily used.
- Reviewed large scale projects to ensure free of license violations, memory leak analysis, and optimizations in formal technical reports to management.
- Designed and implemented NSIS plugin API and XML parsing plugin.

Software Engineer

Scrapboy Digital Media Corporation Burnaby, Canada Jun. 2008-Aug. 2008

- Research and development on undisclosed project.
- C++ with strong OOP usage under Ubuntu / Win32.
- Heavy use of STL, Boost, and cppunit.

Software Engineer

Small Neural Systems Group Vancouver, Canada Dec. 2006-Apr. 2008

- Acknowledged by the United Nations Educational, Scientific and Cultural Organization (UNESCO) and the Free Software Foundation (FSF).
- Designed, lead, and implemented in house *ad hoc* software solution for the Small Neural Systems Group of Dr. Catharine Rankin (UBC Brain Research Centre).
- Tracks the sinusoidal movement of *C. elegans* nematode worms using machine vision algorithms.
- Capture video directly from microscope dissection camera via IEEE 1394,

USB, V4L, Quicktime, *et cetera*.

- Generate statistical information (distance traveled, size, reversal, and so on).
- Portable (OS X, Win32, GNU), released under GPL.
- Implemented using SCons, wxWidgets, and Intel's OpenCV.
- Managed via subversion, published via Debian / Ubuntu apt repository or OS X .dmg with Apache server hosting.
- Saves research laboratory enumerable hours.

Junior Software Engineer

Aviation Research Corporation Point Roberts, USA Dec. 2004-Jan. 2006

- Development of sophisticated airport modeling simulation software used across the globe by major international airports
- Work in teams in USA, Canada, and China
- Security countermeasures implemented to prevent unauthorized distribution significantly improved marketing risks
- Developed OpenGL code base to ensure visual realism
- Implemented Flight Information Display subsystem
- Oversaw Shanghai field operations
- Designed and implemented high-performance digital video camera API and drivers to expand product hardware compatibility base, thus increasing marketability
- Ensure that subsystems are completed, safe, on time, and under budget
- Work in teams of 2-7, responding directly to supervisor with daily status report

Software Engineer

Independent Software Consultant Greater Vancouver Area, Canada 2003-2006

- International Tentnology Co.
 - Took initiative and lead development of intelligent background systems to verify engineer or draftsman's data in real time as they work
 - Took initiative and lead development of secure licensing system to prevent unauthorized distribution of software
 - Algorithm analysis
- Definitive Management Systems
 - Developed vIDMP client and server under contract
 - Interacted personally with client to assess their needs and deliverables
 - Lead development of world's first digital reference volume designed to work in harmony with printed companion
 - Self upgradeable
 - Paid subscription based
 - Database stores information on diagnosed illnesses, medicinal plants, vitamins and minerals, essential oils, aromatherapy, and flower extracts.
 - Implemented in C++ with Win32 API
 - Back-end and DDL in MySQL with C API
 - Deliverables produced on budget and on time

Software Libre Volunteer

Software Engineer SourceForge / Tigris.org 2001-Present

- EasyTag: Improved media parser base64 decoding for album art for large files from ~7 minute $\Theta(n^3)$ to less than a second $\Theta(n)$ running time.
- Code :: Blocks: bug hunting
- Dev-C++: art work, bug hunting, documentation, package manager, developer, support

- DXX-Rebirth: bug hunting, level design, developer
- Gnome-Applets: Weather Applet localization, Trash Applet secure shred feature
- Insight: package maintainer patch
- libcairo: debugging
- Miranda: bug hunting
- NaughtySVN: debugging
- Pidgin: blinklight plugin development for better support of ASUS laptops
- Seahorse: keyring backup fix
- Subversion: debugging
- TortoiseSVN: beta testing, debugging, minor GUI development
- Ubuntu: kernel package maintainer fix for ASUS laptop hardware

Technical Editor

Wiley Publishing

Vancouver, Canada

2004

- Served as technical editor to Dan Gookin's *C For Dummies*, 2nd edition, as well as companion reference volume
- Enhanced pedagogical value
- Ensured correctness and completeness of information
- Worked offsite with actual publishing house located in Hoboken, USA

Technician

Answers Technologies

Walnut Grove, Canada

2003-2004

- Take orders from customers, design, and build appropriate machines to meet their needs and budget
- Diagnose and repair systems
- Perform house calls involving networking, repairs, and installation

3D Animation Instructor

Surrey, Canada

1999-2000

- Taught students various techniques of 3D modeling
- Taught low polygon modeling for game engines, texture mapping, scenery, key framing, et cetera
- Tended to students personal interests while strengthening their weaknesses

COMPUTING SCIENCE SKILLS

- UML
- Design Patterns
- GNU Coding Standards
- Operating Systems: Apple OS X, BeOS, GNU/Linux (mostly Debian based and vanilla kernel), MS DOS, Palm, UNIX (Sun Solaris), Win16/32
- X Window System Desktop Enviroments: GNOME, KDE
- X Window System Window Managers: Blackbox, Enlightenment, Metacity, Sawfish, WindowMaker
- Platforms: 32/64 bit Intel, PowerPC, Motorola 68HC11
- System Languages: Assembly (16-bit real mode / 32-bit protected), C, C++
- Academic Languages: Haskell, PROLOG
- Interpreted / Scripted Languages: Agni, Java, JavaScript, Python, Lua, PHP, Ruby, Shell, Win32 Batch
- Special File I/O: AutoCAD Drawing Exchange Format (DXF)
- Toolkits and API: Berkley sockets, Carbon, DLL, Fmod, FreeGLUT, GNU/Linux device drivers, GnuTLS, GTK, Intel Integrated Performance Library, MFC, NSIS, OpenCV, OpenGL, OpenGL Shading Language, SDL, STL, Win32 API, Win32 DDK, WinAmp SDK, wxWidgets (wxGTK, wxMac, wxMSW)

COMPUTING SCIENCE PRODUCE (PERSONAL)

- Development Tools and Environment: Code::Blocks; CVS; Dev-C++; GCC; GDB; gedit, GNU Autotools, Diff, Patch; Fink ; Insight; NaughtySVN; Premake; SCons; Subversion; TortoiseSVN; Turbo C++; Visual C++; wxFormBuilder; XCode
- Data structures, complexity, and algorithm design
- Advanced Skills: Operating system design and implementation, compiler theory, reverse engineering (Java, smartcard ISO 7816, PE executable, et cetera)
- Relational database design and usage: Oracle, MySQL, PostgreSQL
- Apache, IT, Networking, procmail, rsync, svn
- Strong emphasis on security via OpenPGP

- Agni
 - Fully functional interpreted programming language
 - Imperative paradigm
 - Assembler, compiler, and virtual machine written in C++
 - Cross platform
 - Multi-threaded, asynchronous and synchronous invocation
 - GNU style interface
 - Simple host integration
 - Artificial intelligence, user interface, and game development applications
- Shiva (alpha)
 - 32-bit protected mode operating system for the Intel 386 and up
 - Assembly language boot sector
 - Assembly, C, and C++ kernel
 - Bootable CD-ROM or floppy disk
- Eggplant
 - Automated playlist system shutdown plugin for WinAmp
- vLabGlasses
 - DLL abstraction layer API library to provide communication between PC joystick port (game port) and Vernier laboratory photogate timers
 - Simplifies querying equipment by exporting a set of high level calls that can be used from any environment that supports dynamic link libraries
 - Used primarily in conjunction with LabView
 - High performance with portions written in assembly, Win32 DDK, and Win32 API
 - Port can be detected, even if not at standard ISA soundboard port 0x201
 - Bypasses MCI API, DirectInput, joystick drivers, and all other high level calls by communicating directly with port via kernel level access
 - Can work with as many as four photogates harmoniously
- Miscellaneous
 - Manipulating multimedia and wave-form audio devices
 - Game archive unpackers
 - Email clients
 - Hardware access
 - NSIS plugins
 - Task manager
 - Security
 - Data structures and templates
 - Dictionary software (DICT protocol)

COMMUNITY AND VOLUNTEER WORK

- CanSecWest 2009 volunteer
- UBC Shad Valley Summer 2007 guest lecturer
- UBC Hospital, Brain Research Centre
- 8 - 12th Annual Labour Christmas Dinner
 - Hot meals, clothing, children's toys, setup and cleanup
- Annual children's work at Camp Alexander
 - Construction and deconstruction of facilities, lead games and activities, safety
- Free educational software
 - Lead design and implementation of non-proprietary and open source tools to allow high schools, colleges, and university physics departments access to laboratory software royalty free
- Software for the blind and visually impaired
 - Volunteer technology consultant and passive developer for TDL Software, a Danish software house specializing in children's games, donation of hardware and software, active leader in development of speech synthesis, user interface, and network subsystems
- World Wildlife Fund Canada
 - Protection of tropical rain forest

AWARDS

- Australian Mathematics Competition, Certificate of Credit
- Tournament of Minds for Maths / Engineering, Special Award for Efficiency and Simplicity of Device
- Skills Competences Canada, Certificate of Competition
- Golden Web Award for Zero47.com (now TheVertigo.com)

SOCIAL ACTIVITIES / INTERESTS

- Living foodism and kombucha home brewery
- Argentine Tango
- Karate
- Vancouver Linux User Group
- Mission & District Rod and Gun Club
 - Maintenance
 - Black powder and rifle committee
- University Clubs and Organizations
 - Anthropology Club
 - Cognitive Systems Society
 - Debate Club
 - Navigators of UBC
 - Philosophy Students Association
- High School and Elementary
 - Camp Alexandra, Leadership Training Camp
 - Surrey Parks & Recreation, Pacific Sports Camp
 - Simon Fraser University, Summer Camp Program
 - British Columbia Beavers, Cubs, and Boy Scouts
 - Brad Higgs, Summer Soccer School
 - Canadian Red Cross Society, Water Safety Programme
 - Academy of Martial Arts & Inner Power
 - Ray Shepherd Elementary, "Trash Bash" to protect 100 acres of rain forest

AUTODIDACTICISM / EXTRACURRICULAR

- Student Pilot training at Coastal Pacific Aviation, 2007
- Carpentry
- UBC 2007 Multidisciplinary Undergraduate Research Program

- Rigorous, highly routine, intensive physical training involving both running and progressive resistance load bearing exercises (barbel / dumbell)
- Mathematics
- Travels include Australia, South Korea, Singapore, Indonesia, New Zealand, Papua New Guinea, China, United States, and the Carribbean
- Language and linguistic interests (Sanskrit, Zend, Latin, Middle Egyptian)
- Literature
 - Artificial Intelligence, Computing Science, Philosophy of Mind, Military History, Logic, Ethics, Science Fiction, and the Classics

PSYCHO
EDUCATIONAL

WAIS-III

- Assessment Date: Sept. 2nd, 2005
- Examiner: Gail Ross, BSC., MEdPsych.

Picture Completion	13	Vocabulary	15
Coding	11	Similarities	19
Block Design	14	Arithmetic	13
Matrix Reasoning	16	Digit Span	11
Picture Arrangement	13	Information	15
		Comprehension	15

	<i>Composite Score</i>	<i>Percentile Rank</i>	<i>90% Confidence Interval</i>	<i>Qualitative Description</i>
Verbal Scale	131	98	126-134	Superior
Performance Scale	124	95	117-128	Superior
Full Scale	131	98	127-134	Superior
Verbal Comprehension	138	99	132-141	Superior
Perceptual Organization	128	97	120-132	Superior