WILLIAM NICHOLS

BSc Computer Engineering
University of Alberta

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Languages
Modern C++
C
Python

Assembly
Bash
CSS
Express.js
Groovy
HTML
Java
JavaScript
Lisp
Lua
MATLAB
Node.Js
Perl
PSQL
SQL
Visual Basic
VHDL

Technologies
Ant
Confluence
CMake
Docker
ESXi
Git
HAProxy
Jenkins
JIRA
Networking
.NET
vSphere

HIGHLIGHTS OF QUALIFICATIONS

- Ten years of **software development**, **DevOps**, hardware and networking experience
- Extensive **C and C++** programming experience
- Extensive **Linux/Unix** experience, **Windows** expert
- Innovative, collaborative and inclusive **team player**

WORK HISTORY

William's Computer Service · IT Architect   **May 2009 - Present**
- Started a wholly owned computer consulting business
- Implemented secure network design for numerous corporate customers
- **Volunteer** services for low-income individuals
- Developed entrepreneurial, interpersonal, and communication skills
wcs.williamnichols.com | C, C++, Python, Assembly, Lua, Perl, HTML, CSS, JavaScript, Bash

Global Shop Solutions · Software Engineer · Continuous Improvement   **Mar 2020 - Present**
- Designing, refactoring, debugging, developing and deploying ERP solutions using GAB for over **30,000** customers in over **25 countries**
- Working directly with customers to provide on-the-fly solutions
- Maintaining and improving the overall quality of custom ERP solutions
globalshopsolutions.com | Visual Basic, .NET, PSQL, SQL, GAB, AWS, Bash

University of Alberta · Computer Engineer · Asymptote   **Jun 2019 - Jan 2020**
- Developed a GUI for command line based asy
- Developed a server based version of asy for the web in node.js with Express.js
asymptote.sourceforge.io | C, C++, Python, JavaScript, Node.js, Express.js, HTML, CSS

Government of Canada · Computer Engineer Co-op · Secure Solutions   **May - August 2018**
- Designed, built and documented the provisioning process for a **high visibility**, systems engineering project deployed to **the entire Government of Canada**
- Provisioned smartphones for Canadian government ministers and officials, including the **minister of national defense**
- Worked on Mobile Device Management for **thousands of devices.**
- Gained **leadership** experience while acting in the role of Lab Lead
- Worked directly with **top-level** government officials to ensure their requests were promptly fulfilled and requirements met
cse-cst.gc.ca/en | Windows SysAdmin, Cisco Communications (CUCM, CIMP), VMware AirWatch

Government of Canada · Computer Engineer Co-op · Classified   **May - August 2017**
- Researched and documented a complete Man-in-the-Middle (MITM) capability
- Worked on a system that processes traffic of **billions of users**
- Managed Virtual Machines and Networks using VMware ESXi, vSphere
- Built a new **continuous integration and continuous deployment** testing framework that reduced development time for all team members by **30%+**
- Designed and built a WebSocket server written in Python
cse-cst.gc.ca/en | C, Java, Python, Groovy, Perl, PHP, JavaScript, XML, HTML, CSS, Jenkins

University of Alberta · Computer Engineering Researcher   **Nov 2016 - April 2017**
- Researched wireless power transfer using standing waves and applications of the technology
- Implemented wireless, internet enabled sensor reading. Implemented fail off, internet enabled temperature sensors for safety
ualberta.ca | C++, Lisp, MATLAB

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TECHNOLOGIES AND TOOLS

- Unix (Linux, BSD, OSX) and networking
- Deep low level hardware knowledge (MOSFETs, Transistors…)
- Computer architecture and optimization
- OpenMP, MPI, Spark & Scala
- In-depth knowledge of debugging, bug tracking, testing, documentation, and version control
- High-performance computing (HPC)
- Windows, AWS, Adobe Creative Cloud (Photoshop, Illustrator)
- Virtualization with Qemu, vSphere
- Atlassian (Confluence, JIRA, Bitbucket, Trello)

HARDWARE EXPERIENCE

- Hardware design in VHDL
- Synthesis and mapping of designs onto field programmable gate arrays (FPGAs)
- Fault-Tolerant Computing
- Continuous and Discrete Time Signals and Systems
- Design of memory elements: SRAM, DRAM, ROMs at a transistor level
- Design of rationed-logic CMOS gates at transistor level
- Design of dynamic CMOS logic gates

PROFESSIONAL EXPERIENCE

- Designed and built multiple new testing frameworks that implemented **Continuous Integration/Continuous Deployment (CI/CD)**
- Designed and implemented DES on a FPGA to crack DES in under 24 hours using VHDL
- Created an Android app with ElasticSearch as a back-end
- Linux command-line system administration including: routing, file sharing systems, remote storage systems, syslog
- Developed and implemented an IT Policy and SLA that **reduced** total cost of ownership **by 50%**
- Set up and managed: corporate networks, domains, telecom and ISP contracts and services, several business websites, VPN
- Experience operating within **Agile development** environments (**Scrum**)
- Strong written and verbal **communication** skills
- Mid to large scale C/C++ projects

CERTIFICATIONS

- Cisco CCNA Discovery: Networking
- Cisco IT *Essentials*: PC Hardware and Software
- Focus on Information Technology: Systems and Operations 4 Star

COMPLEMENTRY SKILLS

- Intermediate Spanish
- Dedicated Hap Ki Do (Martial Art) student since 2007
- Avid Photographer/Videographer since 2012
- Recreational Soccer and Hockey Player