

Dylan Hoen

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Objective

I am seeking full time employment, based near Victoria, BC, Canada, preferably in an electrical engineering or programming related position.

Education

- Bachelor of electrical engineering, DSP option, plus a minor in computer science from the University of Victoria, graduated June 2007
 - Due to University regulations on duplicated courses between the major and the minor, I ended up taking 2 courses less than the equivalent of a major in computer science.
 - Made the Dean's List (top 10%) in first year engineering
- Completed the 600-hour computer assisted drafting career preparation diploma program at Mount Douglas Senior Secondary School in Victoria, graduated June 2000
- Did well in various math and physics contests, leading to scholarships, including:
 - Placed in the top 7 on Vancouver Island on the **Euclid Mathematics Contest** (1999-2000), which lead to a \$1,000 scholarship
 - Placed 4th in BC and 34th in Canada on the **Sir Isaac Newton physics exam** (1999-2000)

Work Experience

- **Computer helpdesk technician** at the **National Money Mart** head office, Victoria, BC, July 2011 to January 2012
 - Talked several hundred stores, over the phone, through the installation of debit machine pinpads that connected to computers through USB and serial connections.
 - Used a remote desktop administration software, called "Radmin" to log into each store's computer and install and configure the software that ran the pinpads.
 - Fixed computer problems that the stores called in to get help with.
- **Mover and handyman** at **ASL Environmental Sciences**, Victoria, BC, September 2010 to November 2010
 - Helped them move their company from one location to another
 - Helped them set up at the new location
 - Constructed furniture
 - Did metal work on their new sonar test tank
 - Painted waterproof coating onto sonar test tank
 - Calibrated instruments
 - Prepared instruments for shipping
- **Contract Java programmer** for a University of Victoria computer science grad student, Victoria, BC, October 2009 to July 2010
 - Modified some java programs and created others from scratch
 - Communicated mostly through email and Skype, and met in person every couple weeks
 - Used the Eclipse and NetBeans IDEs

Work Experience part 2

- **Electrical engineer and programmer at Reach Technologies Inc.**, Victoria, BC, February 2007 to April 2009, <http://www.reachtest.com/>
 - Worked on software applications that control custom PCI card based hardware products, mostly using the Delphi language in the Borland Developer Studio 2006 IDE
 - Wrote example SDK applications using ActiveX and DotNet components in Delphi, Visual C++, C#, J#, Visual Basic, ATEasy, LabWindows, and LabView
 - Tested software and fixed bugs
 - Assisted in the circuit design of a 32-channel analog recorder PCIe card
 - Made a GUI to control the 32-channel analog recorder and converted it into a signal analyzer with level bar graphs, windowed level history graphs, a triggerable multi-channel oscilloscope, a multi-channel FFT graph, and a single-channel FFT analyzer
 - Used this software analyzer and an external signal analyzer to calculate a list of specifications for the product
 - Used Nvidia's CUDA SDK for GPU accelerated FFTs
 - Did circuit design and board layout of an ultra-capacitor based uninterruptible power supply for a ruggedized air-born IRIG Time Code generator, using Altium Designer
 - Soldered together, constructed, and tested prototypes and production units
 - Picked out and ordered electrical components from Digikey and other suppliers
 - Picked out and ordered computer components for workstations and PC based production units
 - Installed operating systems and software on PC based production units
 - Traveled to, and co-manned booths, at trade shows
 - Wrote software and product manuals
- **Visual C++ and Java programmer at Pixpo Technologies**, Victoria, BC, August 2005 to August 2006, <http://www.mixpo.com/> (Company is completely different today)
 - Created a search engine that divided the work of searching between the Java based central server and the C++ based media broadcasting clients.
 - Created a search engine that found broadcasters with similar content to the current one being viewed.
 - Used the Eclipse Java and Visual Studio Visual C++ IDEs
 - Used Tortise SVN for source control
- **Visual C++ programmer at the USNR Optimization Division**, Parksville, BC, January to April, 2005, <http://www.usnr.com/>
 - Added features to the orthographic and 3D log viewing program that allowed for scrolling, zooming, and measuring on their 2D views.
 - Tracked down and fixed bugs.
 - Cleaned up code by moving various implementations of the same functionality from the child classes to a standard implementation in the parent class.
 - Learned a lot about C++ programming, debugging in Visual C++ .Net, using Visual Source Safe to keep track of code revisions, and writing readable code.
- **UVic Autonomous Underwater Vehicle Team member**, September 2003 to August 2007, <http://www.auvic.uvic.ca/>
 - Worked on vision system, sonar system, battery system, control system, and traveled to the competition site in San Diego, CA, USA
- **CAD draftsman and house measurer for MeasureMasters**, Victoria residential franchise, using Visual CAD, January 2000 to August 2003, <http://measuremastersvictoria.com/>
 - Sketched the as built floor plans of the houses, took measurements with a laser measuring device, and then drafted up the floor plans on my computer using Visual CAD. The floor plans were guaranteed to 1% accuracy and were used by real estate agents to advertise the houses or to obtain a permit to renovate them.

Work Experience part 3

- **CAD draftsman for School District 63**, during the Spring of 2000
 - 100 hours work experience for my CAD career preparation diploma program
 - Software - MiniCAD 7, VectorWorks 8.5, RenderWorks, MS PowerPoint, and Adobe Photo Shop.
 - Drafted a 3D wheelchair accessible bedroom and kitchen and rendered them with textures and lighting. I made a PowerPoint Presentation of animations of the individual objects coming into the rooms, one at a time, for a conference of engineers from several school districts.
 - Pasted and rotated floor plans onto plot plans and added all the emergency shutoffs for power and water for all the schools in school district 63.
 - Used a Digital camera to take pictures of renovations done on several schools and used Photoshop to enhance them.
- **Miscellaneous Jobs:**
 - **Tutored** a friend in a math 12 correspondence course for several hours per week for 3 months and tutored a neighbor in math 10 one hour per week for several months. (both ended up passing their courses)
 - **Computer Administration and Technical Support:** Fixed many people's computer problems in person or over the phone.
 - Most people said I was better than any technical support they had gone through before.
 - **Construction laborer** - Reshingled a garage roof and refiberglassed a sundeck.

Skills and Qualifications

- **Computer Related:**
 - **Primary Languages** -Java, C, C++, Delphi
 - **Secondary Languages** -C#, Perl, CUDA, QBASIC, HTML, PHP, MYSQL, Postgres SQL, Motorola micro controller assembly, Pic micro-controller C, OpenGL, Visual Basic, Java Script, Csh script, VHDL, LabView
 - **Primary IDEs** -Eclipse, Visual Studio, Borland Developer Studio, Text Pad
 - **Secondary IDEs** -Matlab, Altium Designer (Protel), ISE Tools, LabView, Lab Windows
 - **Operating Systems** -Windows 95/98/2000/XP, MacOS 7.x, Linux, Unix
 - **Software** -Photoshop, Paint Shop Pro, Beyond Compare, MS PowerPoint, MS Word, MS Excel, Claris Works, TextPad, Micro Cap, MiniCAD, VectorWorks, RenderWorks, Artlantis, AutoCAD, VisualCAD
 - **PC Hardware** -Comprehensive, up-to-date knowledge of PC hardware components; I read the latest hardware reviews and benchmarks. I also separately chose all the parts for my computer and assembled it.
 - **Networking** -Set up a home network to share an internet connection between 3 PCs.
 - **Web Administration** -Bought my own domain name, assigned it to a DNS server, pointed a sub-domain to the IP address of my web server, wrote all my html by hand and uploaded it to the web server:
<http://www.dylan.hoen.ca/>
 - Set up Apache web server to work with PHP and PERL on Windows and Linux
 - Set up MS Personal Web Server to work with PHP and PERL
 - **Technical Support** -Fixed many people's computer problems in person and over the phone.
 - Most people said I was better than any technical support they had gone through before.

Skills and Qualifications part 2

- **Programming Projects:**

- Made a depth-of-field and diffraction-limit tradeoff calculator and grapher web page
- Made a program for both QBASIC and Java that can generate stereoscopic animations of rotating 4D wire frame objects
- Made an image editing program in Java that could add various effects to images from both command line and a GUI
- Made an IRC style chat program for java that acts as both a client and a server. They connect together in a tree-like structure and each piggyback messages from one client to all the other clients in the tree.
- Made an OpenGL Winamp2.x music visualization plugin in C++ with dynamic textures that change to the beat. It has over 10,000 downloads so far.
- Made a camera specifications database. I used Perl to extract the specifications from dpreview.com and insert them into a MySQL server and I used PHP to run and display the results of the queries.
- Made an online photo album, which uses Perl to generate PHP files for a given directory of images. The generated index PHP file contained the image thumbnails sorted by their timestamps along with the resolution and file size of the originals that they link to. For each image, a PHP page was generated that showed the settings on the digital camera that was used to take the picture (EXIF data).
- Some examples of my programs can be found at: <http://www.dylan.hoen.ca/>

- **Electronics Related:**

- **Skills**
 - Reading, understanding and designing schematics
 - Simulating circuits with Micro Cap
 - PCB layout in Altium Designer (Protel) or generic CAD programs
 - Etching, drilling, and soldering circuit boards
 - Interfacing Pic, 6811, and AVR micro-controllers with digital and analog circuits
- **Equipment**
 - Multimeters
 - Function Generators
 - Oscilloscopes
 - Spectrum Analyzers
 - PDR IR BGA Rework Stations

- **Electronic Projects:**

- Built an adjustable brightness LED flashlight using an inductor based switching power supply, which was controlled by a Pic micro-controller. The battery's 4.8 volts was stepped up to 30 volts to power 9 white LEDs in a series. For most of the flashlight's power range, the LEDs receive power at 70% efficiency. At the brightest setting, the flashlight would last 9 hours and at the dimmest setting, it would last 18 days. (This was before LED flashlight became popular)
- Built a preamp circuit for my car using operational amplifiers. It took the differential signal off of my speaker wires and converted it to a signal and ground. It then went through an adjustable volume control on my dashboard and then to the amplifier in the back of my car.
- Built a water-skier to boat driver communication system (Elec499b Project). The water-skier would press buttons on the handle and an LCD screen on the boat would tell the driver what to do without having to look behind them.
- Built a CPU cooling system for my computer which consisted of a thermal electric cooler cooled by water, which was pumped by an aquarium pump through a radiator (car heater core). The whole thing was encased in a custom built Plexiglas case. I also made an analog fan speed control circuit with different colored LEDs indicating each of 4 voltage ranges.

Skills and Qualifications part 3

- **Computer Assisted Drafting**

I took the Computer Assisted Drafting Career Preparation Diploma Program at Mount Douglas Senior Secondary, which includes 400 hours of CAD training and 100 hours of work experience.

- **Software** -MiniCAD 5.0, 6.0, 7.0, and VectorWorks 8.5, RenderWorks (add-on for VectorWorks), and Artlantis 2 and 3
- **Rendering** -Rendered 3D images and fly through movies using Artlantis and RenderWorks
- **Drawing Types** -Orthographic, Isometric, Oblique, 1 point perspective, 2 point perspective, mechanical style, architectural style, and dimensioning
- **Surfaces** -Took orthographic drawings of an object and unfolded the surface to make a drawing that could be printed out and folded back up to make the object (stretch out)
-Also drafted transitional surfaces, ie: to connect a square pipe to a round pipe
- **Architectural** -Designed 3D houses - Drafted floor plans, foundation plans, plot plans, cross-sectional views, elevations, and rendered 3D pictorials
- **White Printing** -White printed 3 major Projects - 2 houses, and instructions on how to machine and build each part of a plate caster, and assemble the parts (mechanical drafting)
- **Drafting Hobby Projects** -Designed 3D Quake (First Person Shooter type computer game) levels, in which I played against my friends
-Rendered fly-bys of my drafting 11 3D projects
- **Examples** -Examples can be found at: <http://www.dylan.hoen.ca/employers/minicad/>

- **Miscellaneous**

- Canadian Citizen (Born and raised in Victoria, British Columbia, Canada)
- Canadian passport -good until 2012/05/28
- Class 5 British Columbia Drivers License
- Own a vehicle and a laptop computer
- Open Water SCUBA Diver's License

References

Glenn Jones, Owner/Head Engineer, Reach Technologies Inc, Victoria, BC
Phone: (250) 598-1308

Tyler Black, Former Enterprise Systems Developer, Pixpo Technologies, Victoria, BC
Phone: (250) 483-7011

Matt Burdyny, Former Team Leader, UVic Autonomous Underwater Vehicle Team, Victoria, BC
Phone: (858)208-8134

Bruce Atkins, Owner of Victoria Residential Franchise, MeasureMasters, Victoria, BC
Phone: (250) 744-4022