

Neil Isaac

Phone: 416.723.3467 **Email:** neil@neilisaac.ca www.neilisaac.ca
Address: 666 Spadina ave. apartment 1208, M5S 2H8, Toronto, ON

OBJECTIVE

To obtain a position where I can apply my programming skills to real world problems.

EDUCATION

Bachelor of Applied Science in Electrical and Computer Engineering 2007-2012

University of Toronto, Toronto, ON.

Expected graduation May 2012.

Completed 16 month internship at AMD.

Dean's Honour List for 4 of 6 semesters.

Ontario Secondary School Diploma 2003-2007

From HumberSide Collegiate Institute.

Graduated with honours standing and with an overall average above 90%.

Course awards for Computer Science and Computer Engineering in grades 10, 11, and 12.

SKILLS

Programming: C, C++, Python, Java PHP, Perl, PHP, Csh/Sh/Bash
Digital Electronics: Verilog, SPICE Simulation, FPGA and standard cell design
Physical Design: Design for Power (DFP), Timing analysis/closure
Utilities: Debuggers, Subversion, Git, Doxygen, UNIX Tools, Databases
Markup Languages: HTML, Javascript, CSS, Latex
Operating Systems: GNU/Linux, BSD, Windows

WORK EXPERIENCE

Physical Design and internal CAD tool development 2010-2011

Advanced Micro Devices (AMD), Markham Ontario

- Developed program to fix chip layout for power connectivity issues.
- Experience using commercial physical design tools and APIs including OpenAccess.
- Experience writing large scale, high performance Python code.
- Responsible for timing closure for numerous clocks.
- Responsible for library preparation.

Research Assistant in forest fire modelling Summer 2008, 2009

Professor Dave Martell, Faculty of Forestry, University of Toronto

- Independent and collaborative software development using C and Perl.
- Implemented a forest fire growth model based on the *Fire Behaviour Prediction* model published by Natural Resources Canada.
- Wrote a graphical front-end applications for growth model using C and GTK+.
- Wrote a multi-threaded burn probability application using the growth model.
- Administrated mail and web server running Red Hat Linux.

COURSE WORK

- ECE540: Optimizing Compilers** *Spring 2010*
- Code analysis techniques and optimization algorithms.
 - Projects implementing optimizations using the SUIF compiler system.
- ECE451: VLSI Systems** *Spring 2010*
- Covers VLSI design issues including clocking, power dissipation, CAD tools, simulation and testing, design methodology.
 - Lab component doing complete transistor layout for a 4-bit microprocessor.
- ECE452: Computer Architecture** *Fall 2009*
- Processor optimizations and parallelism techniques.
- Examined multi-cycle pipelining, superscalar, out-of-order execution, multithreading, synchronization, memory models, caching.
 - Projects simulating processor performance with different configurations.
- ECE344: Operating Systems** *Fall 2009*
- Operating system design and implementation.
- Programming projects involving low-level C code in OS/161.
 - Implemented system calls, synchronization structures, process creation.
 - Wrote a block device driver for the Linux kernel to control trivial hardware.
- ECE243: Computer Organization** *Spring 2009*
- Assembly programming, device I/O, basic processor design.
 - Created game in MIPS Assembly using PS/2 mouse and VGA controller.
- ECE297: Communication and Design** *Spring 2009*
- Developed data storage server capable of searching records and processing concurrent connections over network.
- ECE241: Digital systems** *Fall 2008*
- Introduction to digital electronics with lab component using FPGAs.
 - Created game in Verilog using keyboard input and VGA output.

UNIVERSITY CLUBS

- Engineering Yearbook Webmaster** *2008-Present*
- Developed mechanism for graduating student to post yearbook comments.
 - Created a new Drupal theme and custom PHP code each year.
- Engineers Without Borders Webmaster** *2009-Present*
- Developed new website design with custom theme and PHP modules.
 - Maintained Drupal and Wordpress based website.

INTERESTS

- Technical:** Linux Software, Hobbyist Programming, Website Development
Athletic: Squash, Cycling, Mountain Biking, Snowboarding, Backpacking, Canoeing, Kayaking
Other: Acoustic Guitar