

Nathan Bryan Taylor

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Education

- **University of British Columbia** Vancouver, BC
M.Sc. in Computer Science Projected Graduation Date: Spring 2011
 - Thesis: TPD
 - Selected Coursework: Cloud Computing, Execution Mining, Image Understanding, Parallel Algorithms and Architecture, Scientific Computing
- **University of Alberta** Edmonton, AB
B.Sc. Specialization in Computing Science Graduation Date: Spring 2009
 - Selected Coursework: Compiler Design, Computational Science and Clusters, Computational Differential Equations, Introduction to Software Engineering, Numerical Methods, Operating System Concepts

Skills

Languages: .

Proficient: C, Java, Perl, Matlab

Knowledgeable: Assembly(68k, Mips, ia-32), C++, C#, Mathematica, Scheme

Familiar: L^AT_EX, Objective-C, Prolog, Python

Development tools: CVS, Eclipse, Subversion, Vim, Visual Studio, Xcode

Frameworks and Libraries: .NET, AWT/Swing, Boost, Cocoa, CUDA, GDI+, Google Android, GNU Toolchain, XNA

Operating Systems and Environments: BSD (OpenBSD, FreeBSD), Linux (Debian, Ubuntu), OSX, Windows

Work Experience

- **University of British Columbia - Dept. of Computer Science** Vancouver, BC
CPSC 110 Teaching Assistant - Supervisor: Gregor Kiczales September 2009 - April 2010
 - Led course lab sessions and held scheduled office hours; marked assignments and exams
- **Alberta Ingenuity Centre for Machine Learning** Edmonton, AB
Developer - Android Instrumentation Project - Supervisor: Randy Goebel April 2009 - August 2009
 - Extended Google Android UI framework to capture users' gesture data for pattern classification analysis
 - Built simple Market app to transmit anonymized client data to the AICML
- **University of Alberta - Faculty of Science** Edmonton, AB
Science 100 teaching assistant - Supervisor: Paul Lu August 2008 - April 2009
 - Led regularly-scheduled computing science lab sessions as well as ad-hoc help sessions
 - Assisted with assignment creation and marking
 - Provided support for non-CS instructors seeking to integrate computing into their curriculum

- **University of Alberta - Computing Science Summer Camps**

Edmonton, AB

Summer Camp Instructor

May 2008 - August 2008

- Co-developed curriculum and taught Build-Your-Own-Game camp; taught robotics camp
- Developed generic, XML-modifiable game engines for game camp students to base their creations on

Selected Portfolio

- **Ceiling Yacc**

CMPUT 415 Project: Compiler for a subset of Pascal

- Built in a group of 4 for a final year class project, along with a comprehensive test suite. Compiled Pascal source to a JVM-like stack machine language with some basic optimizations.
- Major contributions to the project included building the compiler's grammar and a libc-like math library

- **Ngine**

Plugin-based game engine for beginner programmers

- A modular video game engine written for young computer camp students, with an emphasis on customizable with a minimum amount of programming, and an instructive, educational codebase
- Sample modules included a puzzle game, a raycasting 3D engine, and a platform shooter

- **VMud**

Roguelike-like multi-user role playing game

- Implemented a conio/ncurses-style terminal control and ASCII formatting library to operate efficiently over Telnet, upon which sits a proof-of-concept multiuser role playing game framework.

Volunteer Activities

- **Supercomputing '08 Cluster Challenge Team**

University of Alberta

Team member

April 2008-November 2008

- Acted as primary team member for GAMESS quantum chemistry package: was responsible for compiling and benchmarking the software, as well as being one of the team experts in the application's problem domain
- Assisted with stereo visualization of output data and cluster system administration

- **Undergraduate Association of Computing Science**

University of Alberta

Executive Committee member

May 2007 - April 2009

- As VP External, interfaced with groups and institutions outside the department
- As VP Internal, met with departmental representatives to advocate for undergraduates' issues
- Volunteered time to UACS events and fundraisers

Interests

Computing Science: Compiler Construction, Formal Language Theory, Machine Vision and Computer Graphics, Operating Systems, Parallel and High-Performance Computing, Computer Security

Mathematics: Numerical Methods, Group Theory

Other: Cycling, Trombone Playing, Record Collecting

References available upon request.