

AREAS OF EXPERTISE

- **Languages:** Python (expert), C (expert), Shell Scripting (expert), C++ (proficient), C# (proficient), Java (proficient), MATLAB (proficient), Scheme (prior experience), VB .NET (prior experience), Prolog (prior experience).
- **Parallel Programming:** MPI-MPICH2 (expert), Hadoop (prior experience), Amazon EC2 (prior experience), Erlang (prior experience), CUDA (prior experience).
- **Software:** svn/git (expert), scons, MS Visual Studio .NET, Eclipse, Adobe Photoshop, Adobe Dreamweaver.
- **Website Design:** HTML/CSS, C# ASP.NET, PHP, JavaScript, Adobe Flash.
- **Networking:** WireShark, Etherreal, NS.
- **Databases:** MS SQL Server, Oracle, MySQL, JDBC.
- **Currently Learning:** Scala, Go, HTML5.

EDUCATION

M.Sc. in Computer Science The University of British Columbia	GPA: 87% 2009 - 2012
B.Sc. in Computer Science The University of British Columbia	GPA: B 2002 - 2006
High School Diploma South Delta Secondary School	GPA: 97% 1997 - 2002

WORK EXPERIENCE

Graduate Teaching Assistant Dept. of Computer Science, UBC	2009-2012
Graduate Research Assistant Dept. of Computer Science, UBC	2009-2012
Research Technician Dept. of Earth and Ocean Science, UBC	2007-2009
Undergraduate Teaching Assistant Dept. of Computer Science, UBC	2005
Web Master / Developer SDSS Special Education Center	2000-2002

HONOURS AND AWARDS

- UBC Undergraduate Scholar Program Scholarship (\$2500)
- Top Outstanding Academic Achievement Award 2002
- BC Provincial Scholarship Program (\$1000)
- Passport to Education Award (\$750)
- Kinsmen Club Academic Scholarship (\$500)

INTERESTS

- Parallel and distributed computing, cluster computing, peer-to-peer protocols, web development, data mining, networking and security.
- Professional affiliations: USENIX since 2010, SIAM since 2009, SEG since 2007.
- CSGSA (graduate student association) Sports Representative 2010-2011.
- UBC Computer Science Student's Society member, 2002-2006.
- Guitar, hiking, soccer.

SELECTED PUBLICATIONS AND PRESENTATIONS

- Cody R. Brown.** Supporting a process-oriented model in MPI through fine-grain mapping. Master's thesis, *The University of British Columbia*, Vancouver, April 2012.
- Jie Zhao, Rachel Pottinger, **Cody Brown**, and Shriram Rajagopalan. Schema Mediation in Peer Data Management Systems. *International Journal of Cooperative Information Systems*, 20(3): 261-205, 2011.
- Felix J. Herrmann, **Cody R. Brown**, Yogi A. Erlangga, and Peyman P. Moghaddam. Curvelet-based migration preconditioning and scaling. *Geophysics*, 74(4): A41-A46, 2009.
- Peyman P. Moghaddam, **Cody R. Brown**, and Felix J. Herrmann. Curvelet-based migration preconditioning. *SEG Technical Program Expanded Abstracts*, 27(1): 2211-2215, 2008.
- Cody R. Brown**, Yogi Erlangga, Felix J. Herrmann, Peyman P. Moghaddam. Curvelet-based Migration Preconditioning. Presented at the *SEG International Exposition and 78th Annual Meeting*, Las Vegas (NV), November 2008.
- Cody R. Brown**, Gilles Hennenfent. SLIMpy2: Advanced features for operator overloading and abstract syntax tree. Presented at the SINBAD sponsors on-site software installation, Houston (TX), October 2007.

PROJECTS

CYCLOPS high-performance cluster (<http://cyclops.cs.ubc.ca>)

- **Skills:** HPC, xCAT, Shell scripting, PBS Torque, Maui, Unix internals, Wordpress
- I was the system administrator for the CYCLOPS cluster. I setup, managed and maintained the 27 node high-performance machine as a shared resource between members of the Network, Systems and Security Lab at UBC. I presented tutorials about using distributed systems, as well as ran hardware diagnostics and backup management.

Madagascar Developer (open-source project)

- **Skills:** C, C++, Python, Scons, Shell scripting, svn
- Contributed to the open-source, seismic processing/multidimensional data analysis package named Madagascar. Implement seismic processing tools within the Madagascar environment through the C, C++ and Python API. Identify and corrected bugs within the software. Perform installation testing on several platforms.

Dark Ages MMORPG Projects (<http://www.da-wizard.com/programs.html>)

- **Skills:** C# .NET, Searching heuristics, External process memory searching, Threading, Global hotkeys, Windows messaging system
- Part of a two developer team to provide many programs to simplify tasks for an online game. Programs are coded in C# and the code is freely available. Currently a user base of 200. Programs range from search bots to macro programs. Please refer to the link above for more information.

DA-Wizard.com Web Master (<http://www.da-wizard.com>)

- **Skills:** HTML/CSS, JavaScript, Flash, WML
- An information intensive web site to an online game. Perform rigorous platform and browser compatibility testing. Maintain current and new information on the site. Currently nearing 2000 hits a day.

ACADEMIC PROJECTS

Fine Grain MPI / MPICH2 Developer

- **Skills:** C, MPI, Coroutines, Distributed systems
- FG-MPI is an implementation of MPICH2 which uses light-weight coroutines as MPI processes. I ported the MPICH2 process manager Hydra to FG-MPI as well as contributed to the open-source MPICH2 project with various bug fixes for Hydra.

Seismic Project & SLIMpy (open-source project)

- **Skills:** Python, Shell scripting, MPI, MATLAB, Madagascar, Unix, HPC
- SLIMpy is an open-source Python interface to unix-like pipe based linear operators developed at UBC. I managed and added operators to the SLIMpy project. As a research technician at the Seismic Lab for Imaging and Modelling I coded a curvelet-based preconditioner for a reverse-time migration code in SLIMpy and a simplified bspline interpolation of the curvelet vector in MATLAB. These were used later for publications (see above).

Email Spam Competition (CSPC 340: Machine Learning)

- **Skills:** Python, NLTK Toolkit, Naive Bayes
- Participated in a team of two in an email spam classification competition. We achieved an 11.5% classification error on a small training set by implementing a Naive Bayes classifier with optimizations which led to becoming second in the competition (with over 40 teams).