

## Education

- **University of Kentucky** Lexington, KY  
Masters of Science in Computer Science, Dec 2008. GPA: 4.0
- **Calvin College** Grand Rapids, MI  
B.C.S. May 2007. GPA: 3.3. In-Major: 3.8.

## Skills

- **Languages:** Fluent in C, C++, Perl, Java, SQL, HTML, CSS, JavaScript and  $\LaTeX$ . Familiar with PHP, Python. Some experience with Ruby, ADA, C# .NET and PowerPC assembly.
- **OS:** Proficient with Linux, familiar with Solaris, \*BSD, Windows experience.
- **Applications:** Proficient with Apache, MySQL, sendmail, bind (DNS), ISC DHCP, subversion and syslog-ng. Experience with postfix, postgresql, openldap, Dimensions, Telelogic DOORS.
- **Miscellaneous:** TCP/IP networking, High-Performance computing and clusters. Parallel programming with threads and MPI, DO-178B, ARINC 653, image processing algorithms, embedded software development.

## Work Experience

- **Software Engineer** Grand Rapids, MI  
DornerWorks Ltd. Jan 2009 - Present
  - Worked on the Validation and Verification of a large embedded aerospace project. Specifically was involved with testing the Board Support Package, Arinc 653 Part 2 file system and the ethernet driver.
  - Developed Board Support Package (BSP) for VxWorks 653 operating system. Tested and wrote IOLib library for VME bus, tested RS-232 serial driver.
- **Adjunct Instructor, part-time** Wyoming, MI  
ITT Technical Institute Mar 2009 - Present
  - Part-time instructor. Classes taught include Linux administration (Desktop and Server), Linux security, intro to programming and client-side web scripting.
  - Responsible for student attendance, grading and effectively communicating curriculum and learning concepts to student of various abilities, backgrounds and learning styles.
- **Research Assistant** Lexington, KY  
University of Kentucky Computer Science Department August 2007 - December 2008
  - Ported FDK-type Computed Tomography reconstruction algorithm to a Graphics Processing unit. Achieved 70x speedup over commodity x86 CPU.
  - Optimized the parallel (MPI) program for converting the output from a CT scan into a voxel set. Nearly halved the runtime of this program.
  - Worked on optimizing a program for digitally unwrapping a scanned scroll

- **Junior Network Administrator** Grand Rapids, MI  
Calvin College May 2004 - Aug 2007
  - Administered the internal network of Cisco switches and various Linux and Solaris-based servers, including web, email, LDAP, mysql, internal monitoring, logging and DNS
  - Developed and maintained scripts and tools to improve network functionality, including scripts to automate system administration tasks.

## Academic Activities and Experience

- **Beowulf Cluster Administrator** Grand Rapids, MI  
Calvin College Computer Science Department September 2005 - August 2007
  - Responsible for the administration and smooth operation of the Beowulf cluster
  - Assisted Dr. Joel Adams in designing the portable computational cluster, Microwulf.
- **Emulab Research** Grand Rapids, MI  
Calvin College Computer Science Department October 2006 - August 2007
  - Assisted Professor David Laverell with the emulab, a laboratory for network emulation
  - Configured new nodes for emulab, general troubleshooting to get the lab operational
  - Fixed a problem on our emulab that resulted in an 8x increase in disk throughput
- **Abstraction** Grand Rapids, MI  
Computer Science Club September 2004 - May 2007
  - *President* (2006-2007) - Ran meetings, developed agendas, organized colloquia.
  - *Vice-President* (2005-2006)

## Publications

- On-site Scanning of 3D Manuscripts  
Timothy H. Brom, James Griffioen, W. Brent Seales  
Presented at Digital Humanities 2009
- Microwulf: a beowulf cluster for every desk  
Joel C. Adams and Timothy H. Brom  
SIGCSE '08: Proceedings of the 39th SIGCSE technical symposium on Computer science education