

Bryan Chadwick

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Education

Ph.D. in Computer Science, Northeastern University, January 2011

Concentration: Programming Languages & Software Eng.

Dissertation: Functional Adaptive Programming

Advisor: Karl Lieberherr

M.S. in Computer Science, Northeastern University, May 2005

Concentration: Programming Languages

B.S. in Computer Science, Massachusetts College of Liberal Arts, May 2002

Minors: Physics and Mathematics.

Professional Experience

Languages: Java, C#, C++, C, Scheme, Haskell, ML, Python, Perl, JavaScript/jQuery, PHP, SQL

Systems/Technologies: Linux, Android, Windows, NUnit, JUnit, MSTest, NAnt, MSBuild, MS SQL, MySQL, MVC, LINQ, NHibernate, Entity Framework, Mercurial, TFS, Subversion

Senior Software Eng, Thomson Reuters, Boston, MA **12/2011 – Present**

Development of the *Contact Networks* product, using C# and MS SQL. Original technologies included Mercurial, NHibernate, NUnit, and NAnt, recently headed the project's move to TFS 2012 with MSTest and MSBuild.

Developer, Garfield Group Interactive, Newton, MA **7/2011 – 12/2011**

Frontend and backend website development and maintenance for Java/JSP, PHP, and Silverstripe based sites. Linux, MySQL, Tomcat, and Apache server configuration and maintenance.

Lecturer, Northeastern University, Boston, MA **9/2010 – 7/2011**

Lecturing, running labs, managing the course website, creating assignments and exams, and managing grades in Northeastern's introductory undergraduate courses (Fundamentals of Computer Science 1 and 2), two courses per semester.

Developed Java libraries to support the development of complex, visual, interactive games using Java Swing and Android Platforms.

Research Assistant, Northeastern University, Boston, MA **5/2008 – 8/2010**

Completed thesis research on generic, polytypic, and adaptive object-oriented programming and tools. Peer reviewed conference and journal submissions/publications and helped with my advisor's courses in Algorithms and Software Development.

Developed **DemeterF**, a class, traversal, and parser generator for Java and C#, including traversal, multiple-dispatch, and HTTP libraries for Java, C#, and PLT Scheme. Ported the JavaCC parser generator to generate C# parsers.

Worked on compiler implementation and analyses for hardware description languages (e.g., Verilog). Developed optimizations, in C and C++ focusing on activation-record elimination and basic-block fusion for hardware simulation. Implemented a prototype multi-threaded event-based simulator for hardware simulation also in C and C++.

Teaching Experience

Northeastern University, Boston, MA

Instructor	<i>Fundamentals of CS 2</i>	Summer 2011	22 Students
Instructor	<i>Fundamentals of CS 2</i>	Spring 2011	68 Students
Instructor	<i>Fundamentals of CS 1</i>	Spring 2011	46 Students
Instructor	<i>Fundamentals of CS 1</i>	Fall 2010	53 Students
Instructor	<i>Fundamentals of CS 1</i>	Spring 2008	44 Students

Responsible for giving lectures, running lab sessions, creating assignments and exams, meeting with students, and managing grades.

Teaching Assistant	<i>Fundamentals of CS 1</i>	Fall 2008	
Teaching Assistant	<i>Fundamentals of CS 2</i>	Fall 2007	
Teaching Assistant	<i>Object-Oriented Design</i>	Fall 2005, 2006	

Responsible for running lab sessions, creating lab exercises, meeting with students, and grading assignments.

Publications: Journal, Conference, and Workshop

B. Chadwick and K. Lieberherr. *A Functional Approach to Generic Programming using Adaptive Traversals*. Higher-Order and Symbolic Computation, Festschrift for Mitch Wand. To appear, 2011.

B. Chadwick and K. Lieberherr. *Algorithms for Traversal-Based Generic Programming*. In ICFP '10, WGP Workshop. ACM, 2010.

B. Chadwick and K. Lieberherr. *Weaving Generic Programming and Traversal Performance*. In AOSD '10. ACM, 2010.

B. Chadwick and K. Lieberherr. *A Type System for Functional Traversal-Based Aspects*. In AOSD '09, FOAL Workshop. ACM, 2009.