

Christopher Parnin

Contact Information

Address: 324808 Georgia Tech Station
Georgia Institute of Technology
Atlanta GA 30332
E-mail: chris.parnin@gatech.edu
URL: <http://www.cc.gatech.edu/~vector>

Education

Ph.D. in Computer Science, Georgia Tech, current

Advised by Dr. Spencer Rugaber.

Master of Science in Computer Science, Georgia Tech, 2006

Bachelor of Science in Computer Science, Georgia Tech, 2003

Employment, Georgia Tech Research Institute

Software Developer

Summer 2000 to Spring 2007

Worked in research lab as coop student during undergrad program and full-time employee during masters program. Developing software for controlling classified military radar systems and aircraft responses to threats. Lead development team to design, build, document, and deploy a system for managing aircraft threats and responses. Developed data binding and management framework used in five other company products.

Employment, Georgia Tech

Teaching Assistant

Fall 2001 to Spring 2003

Responsible for teaching weekly recitation, holding weekly labs, and grading assignments.

Research Experience

Oakland Cemetery

Fall 2007

Developed tools for taking audio-visual tour of the Oakland Cemetery on a cell phone.

Google Summer of Code

Summer 2007

Developed tools for the Mono open source project to understand client usage patterns of their framework and prioritize unit testing efforts.

Software

CIL Suite : is a suite of tools for performing common tasks with analyzing ECMA CIL bytecode. **CILDiff** is a tool for extracting structured differences between two program versions. **CILFlow** recovers flow graph and statement structures from bytecode instructions. **FieldStat** is a tool for visiting and collecting data over a large collection of assemblies. Initially developed during to support Mono in improving unit test coverage of widely used calls.

NosePrints : **NosePrints** is a tool for inspecting code smells during peer reviews. As many developers are not familiar with code smells, **NosePrints** provides a mini-diagram depiction of the situation, which allows the reviewer to consider the evidence for a particular design flaw.

IHDB : **IHDB** is a tool for recording the interaction history, a record of programming actions, of a developer while using the Visual Studio. The tool has been used for collecting experimental data for several programmers with over 30 working days of software development and evaluating the performance different recommendation systems.

BuildStream : **BuildStream** is a tool for collecting developer snapshots of building and running projects. The snapshots are analyzed to provide summarization of programmer activities, and displayed to help developers reload and track efforts in multi-sessions tasks.

Research Publications

Conference Presentations with Proceedings(refereed)

1. C. Parnin, C. Görg. Building Usage Contexts During Program Comprehension. *Proceedings of the 14th IEEE International Conference on Program Comprehension (ICPC 2006)*, Athens, Greece, June 2006. (23 of 73 submissions accepted - 32%)
2. C. Parnin, C. Görg. Improving Change Descriptions with Change Contexts. *Proceedings of the Fifth International ICSE Working Conference on Mining Software Repositories (MSR 2008)*, Leipzig, Germany, May 2008, pages xx0-x10.(full paper, 40%)
3. C. Parnin, C. Görg, Nnadi. A Catalogue of Lightweight Visualizations to Support Code Smell Inspection. *Proceedings of the Fourth ACM Symposium on Software Visualization (SoftVIS 2008)*, Herrsching, Germany, September 2008, pages xx0-x10.(full paper, 16 of 38 submissions accepted 42%)
4. E. Murphy-Hill, C. Parnin, A. Black. How We Refactor, and How We Know It. *Proceedings of the 31st International Conference on Software Engineering (ICSE 2009)*, Vancouver, Canada, May 2009, pages xx0-x10.(full paper, 50 of 405 submissions accepted 12.3%)
5. C. Parnin, S. Rugaber. Resumption Strategies for Interrupted Programming Tasks. *Proceedings of the 17th International Conference on Program Comprehension (ICPC 2009)*, Vancouver, Canada, May 2009, pages xx0-x10.(full paper, 20 of 74 submissions accepted 27%)

Workshop Presentations with Proceedings(refereed)

1. E. Murphy-Hill, A. Black, D. Dig, C. Parnin. Gathering Refactoring Data: a Comparison of Four Methods. *Proceedings of the Second ACM Workshop on Refactoring Tools (WRT'08)*, Nashville, Tennessee, USA. Plenary session paper.
2. C. Parnin, C. Görg. Design Guidelines for Ambient Software Visualization in the Workplace. *Proceedings of the Fourth IEEE International ICPC Workshop on Visualizing Software for Understanding and Analysis (VISSOFT 2007)*, Banff, AB, Canada, pages 18-25. (54%)
3. C. Parnin, C. Görg, S. Rugaber. Enriching Revision History with Interactions. *Proceedings of the Third International ICSE Workshop on Mining Software Repositories (MSR 2006)*, Shanghai, China, May 2006, pages 155-158.(short paper, 62%)

Research Posters, Tool Demos

1. C. Parnin, C. Görg. Lightweight Visualizations for Inspecting Code Smells, at the *ACM Symposium on Software Visualization (SOFTVIS 2006)*. Brighton, UK, September 2006.
2. C. Parnin, C. Görg, S. Rugaber. Task Board: Tracking Pertinent Task Artifacts and Plans, at the *Proceedings of the 17th International Conference on Program Comprehension (ICPC 2009)*. Vancouver, Canada, May 2009.

Talks

1. Understanding the DEF Framework. GTRI Brown Bag. Georgia Tech Research Institute, Atlanta, GA, Feb 2006.
2. Detecting Bad Smells. GTRI Brown Bag. Georgia Tech Research Institute, Atlanta, GA, March 2006.
3. Developing Visual Studio Plugins. GTRI Brown Bag. Georgia Tech Research Institute, Atlanta, GA, May 2006.
4. Object-oriented Frameworks. GTRI Brown Bag. Georgia Tech Research Institute, Atlanta, GA, June 2006.
5. Usage Contexts. SPARC seminar. College of Computing, Georgia Tech, Atlanta, GA, October 2006.
6. Ambient Software Visualization. SPARC seminar. College of Computing, Georgia Tech, Atlanta, GA, September 2007.

Honors and Awards

GTRI Shackelford Fellowship from the Georgia Tech Research Institute, May 2003. (One award per year is granted for funding three years of graduate school.)

Verizon Scholarship from Verizon to promote research opportunities for minority graduate students, August 2005. (Only two are awarded each academic term.)

Best CS7001 Research Project Award Selected by faculty for best research project among new Ph.D. students, Spring 2007.

Service, Conferences

1. Student Volunteer, 16th ACM SIGSOFT International Symposium on the Foundations of Software Engineering (FSE 2008), Atlanta, Georgia, USA, November 2008.
2. Local Arrangements Chair, 22nd IEEE/ACM International Conference on Automated Software Engineering (ASE 2007), Atlanta, Georgia, USA, November 2007.
3. Work-in-Progress Reviewer, 25th ACM International Conference on Human Computer Interaction (CHI 2007), San Jose, California, USA, April 2007.

Service, Georgia Tech

1. College of Computing Awards Committee Member. Spring 2007
2. Graduate Student Community Relations Member. Fall 2007
3. College of Computing Travel Funds Committee Member. Fall 2007