

Craig A. Damon

<http://www.cs.uvm.edu/~cdamon>

Education

Ph.D., Carnegie Mellon University, Pittsburgh, PA
August 1994 - August, 2000
School of Computer Science
Advisors: Daniel Jackson and Jeannette Wing
Thesis: *Selective Enumeration*

Bachelor of Arts, Bowdoin College, Brunswick, ME
September 1976 - May 1979
Majors: Physics and Philosophy

Academic Positions

Department of Computer Science, University of Vermont, Burlington, VT
Assistant Professor, Fall 2000-present

Teaching Experience

Department of Computer Science, University of Vermont, Burlington, VT
CS 222, Computer Architecture, Spring 2001, Spring 2002
CS 202, Compiler Construction, Spring 2001, Spring 2002
Math 382, (Computer Science) Graduate Research Seminar, Spring 2002 (new course)
CS 205, Software Engineering, Fall 2000 (new course), Fall 2001
CS292, Senior Seminar, Spring 2001
CS381, Graduate Research Seminar, Fall 2002

School of Computer Science, Carnegie Mellon University, Pittsburgh, PA
Teaching Assistant, 15-211, Introduction to Computer Science I, Fall 1997
Instructors: Avrim Blum and Seth Goldstein

Teaching Assistant, 17-654, Analysis of Software Artifacts, Spring 1996
Instructors: William Scherlis and Jeannette Wing

Harvard University Extension School, Cambridge, MA
Teaching Fellow, E-225, Introduction to C++, Spring 1990
Instructor: Charles Sawyer

Student Theses

Theses Supervised

Jim McQuillan, MSc/CS, on-going
Caitlin Coughlin, MSc/CS, on-going
Jeremy Dalmer, MSc/CS, on-going
Torgeir Grothe Lien, MSc/CS, on-going
Jesse Craig, MSc/CS, on-going
Tyler Carr, MSc/CS, on-going
Jeff Blaisdell, MSc/CS, on-going

Thesis Committees

Vinod Kannothe, MSc/CS, October 2001.

Joy McQuillan, MSc/CS, on-going.

Academic Service**Department of Computer Science, University of Vermont, Burlington, VT**

Graduate Program Coordinator, Fall 2001-present

Member, Budget and Policies Committee, Fall 2001-present

Organizer and Founder, Discrete Search Seminar, Spring 2002-present

Member, Search Committee for tenure track CS faculty, Spring 2002

Member, Search Committee for tenure track computational biology faculty, Spring 2002

Member, Search Committee for tenure track CS faculty, Spring 2001

School of Computer Science, Carnegie Mellon University, Pittsburgh, PA

Organizer, Discussion Group on Issues in Computer Science Education, Spring 1997

Student Member, Ph.D. Program Ad Hoc Committee, Summer-Fall 1998

Student Member, Doctoral Review Committee, Fall 1996–Summer 1999

Publications**Publications**

Juergen Dingel, David Garlan and Craig A. Damon. Bridging the HLA: Problems and Solutions, Proceedings of the Sixth IEEE International Workshop on Distributed Simulation and Real Time Applications (DS-RT '02), Fort Worth, Texas. October, 2002.

Daniel Jackson, Somesh Jha, and Craig A. Damon. "Isomorph-free Model Enumeration", *ACM Transactions on Programming Languages and Systems*, Volume 20, No. 2, March 1998, pp. 302-343.

Craig A. Damon, Somesh Jha and Daniel Jackson. "Checking Relational Specifications With Binary Decision Diagrams", *Proceedings 4th ACM SIGSOFT Conference on Foundations of Software Engineering '96*, San Francisco, CA, October 1996, pp. 70–81.

Daniel Jackson and Craig A. Damon. "Elements of Style: Analyzing a Software Design Feature with a Counterexample Detector", *IEEE Transactions on Software Engineering*, July 1996 Vol. 22, No. 7, pp. 484–495. (selected as a best paper from International Symposium on Software Testing and Analysis, 1996.)

Craig A. Damon and Daniel Jackson. "Efficient Search as a Means of Executing Specifications", *Proceedings Second International Workshop on Tools and Algorithms for the Construction and Analysis of Systems (TACAS '96)*, Passau, Germany, *Lecture Notes in Computer Science*, Vol. 1055, Springer Verlag, March 1996, pp. 70–86.

Daniel Jackson, Somesh Jha and Craig A. Damon. "Faster Checking of Software Specifications by Eliminating Isomorphs", *Proceedings of ACM Symposium on Principles of Programming Languages (POPL '96)*, St. Petersburg Beach, FL, January 1996, pp. 79–90.

Craig Damon. "C++ and COP, A Brief Comparison", *Object Oriented Databases and Applications*, ed. Rajiv Gupta and Ellis Horowitz, Prentice Hall, 1991.

Craig Damon and Gordon Landis. "Abstract State and Representation in Vbase", *Object Oriented Databases and Applications*, ed. Rajiv Gupta and Ellis Horowitz, Prentice Hall, 1991.

Joshua Duhl and Craig Damon. "A Performance Comparison of Object and Relational Databases Using the Sun Benchmark", *Proceedings, OOPSLA '88*, San Diego, CA, October 1988, *Sigplan Notices*, Vol. 23, No. 11, pp. 153–163. (reprinted in *IEEE Readings in Object Databases*, Ed. Ez Nahourii and Fred Petry)

Craig Damon and Gordon Landis. "Storage Types in Vbase", *Digest of papers, compcon spring '88*, San Francisco, CA, March 1988, pp. 172-176. (Invited talk) (reprinted in *IEEE Readings in Object Databases*, ed. Ez Nahourii and Fred Petry)

Technical Reports

Juergen Dingel, David Garlan and Craig A. Damon. A feasibility study of the HLA bridge. Technical Report CMU-CS-01-103, School of Computer Science, Carnegie Mellon University, Pittsburgh, PA, January 2001.

Craig A. Damon. *Selective Enumeration* (Dissertation), Technical Report CMU-CS-00-151, School of Computer Science, Carnegie Mellon University, Pittsburgh, PA, July 2000.

Craig A. Damon, Ralph Melton, Robert J. Allen, Elizabeth Bigelow, James M. Ivers and David Garlan. *Formalizing a Specification for Analysis: The HLA Ownership Properties*. Technical Report CMU-CS-99-126, School of Computer Science, Carnegie Mellon University, Pittsburgh, PA, January 1998.

Craig A. Damon. *Selective Enumeration, A Formal Definition*. Technical Report CMU-CS-98-104, School of Computer Science, Carnegie Mellon University, Pittsburgh, PA, January 1998.

Daniel Jackson and Craig A. Damon. *Nitpick: A Checker for Software Specifications (Reference Manual)*. Technical Report CMU-CS-96-109, School of Computer Science, Carnegie Mellon University, Pittsburgh, PA, January 1996.

Daniel Jackson and Craig A. Damon. *Semi-Executable Specifications*. Technical Report CMU-CS-95-216, School of Computer Science, Carnegie Mellon University, Pittsburgh, PA, November 1995.

Published reviews

review of Khaled El Emam and Olivier Laitenberger, "Evaluating Capture-Recapture Models with Two Inspectors", *IEEE Transactions on Software Engineering*, review to appear in *ACM Computing Reviews*.

review of Philip W. L. Fong and Robert D. Cameron, "Proof Linking: modular verification of mobile programs in the presence of lazy, dynamic linking", *ACM Transactions on Software Engineering and Methodology*, review appears in *ACM Computing Reviews*, May 2001.

Additional Presentations

Panelist

"Experiences with Object-Oriented Programming", OOPSLA 1991, October 1991.

"Architecture of an OODBMS", Object-Oriented Database Workshop, OOPSLA 1988, Oct. 1988.

"Implementation Aspects", Object-Oriented Database Workshop, OOPSLA 1987, October 1987.

Research Demonstrations

"Nitpick: A Tool For Interactive Design Analysis". ICSE 97, Boston, MA, May 1997.

Invited Talks

"Selective Enumeration", National Institutes of Standards and Technology (NIST), Gaithersburg, MD, July 1998.

"Selective Enumeration", North Carolina State University, Raleigh, NC, November 1997.

Guest Lecturer

School of Computer Science, Carnegie Mellon University, Pittsburgh, PA

17-652, Methods of Software Development, Fall 1998, Fall 1999

Instructor: Somesh Jha

15-211, Introduction to Computer Science I, Fall 1998

Instructor: Seth Goldstein

Harvard University Extension School, Cambridge, MA

E-225, Introduction to C++, Spring 1991, 1992

Instructor: Charles Sawyer

Reviewer

International Conference on Computer-Aided Verification
IEEE Transactions of Software Engineering

Industrial Experience

Palace Cove Software Services, Chelmsford, MA, Pittsburgh, PA

Consultant, January 1993 – August 1995

Assisted with various projects involving compilers or object databases.

Advanced Technology Group, Progress Software, Nashua, NH

Manager, January 1990 – November 1992

Led R&D investigations. Projects included:

- Alternative models of distribution
- Direct manipulation development systems
- Simplified OO programming support
- AI support for programming
- Multi-media authoring systems
- Multi-language programming environments
- End user development environments

Juniper Software, Chelmsford, MA

Founder, President, Chief Technical Officer, November 1988 – December 1989

Designed and implemented Persist, a second generation object oriented database.

Ontologic (now called Ontos), Billerica, MA

Co-founder, Consulting Engineer, September 1985 – November 1988

Co-designed and helped implement Vbase, the first commercial OODBMS. Areas of responsibility included languages (design and implementation of an OO-extended C), performance, modeling and abstraction mechanisms.

Mosaic Technologies, Billerica, MA

Member of Technical Staff, Languages, November 1983 – August 1985

Designed and implemented an assembler, a Pascal compiler, and an optimizing code generator for the NS32032 chip.

Urban Data Processing, Burlington, MA

Director of Software Engineering, January 1982 – November 1983

Led development and introduction of two new products. Urban Data was a small software house/service bureau specializing in marketing databases for large financial institutions.

Programmer/Analyst, July 1981 – January 1982

Developed and enhanced geo-marketing programs.

Wright-Pierce Architects and Engineers, Topsham, ME

Application Programmer, August 1979 – March 1981

Developed and maintained engineering and MIS programs.

Selected Tools Developed

Ladybug

Carnegie Mellon University, 1998-2000

An automated tool for checking software designs, the successor to Nitpick.

Nitpick

Carnegie Mellon University, 1995-1998

A tool for analyzing formal specifications written in NP, roughly a first-order subset of Z.

Project FutureShock

Progress Software, 1990-1992

An experimental development environment for distributed, graphical, end-user-modifiable applications.

Persist

Juniper Software, 1988-1989

A second-generation object-oriented database.

COP

Ontologic, 1985-1988

An optimizing compiler for an object-extended dialect of C.

Memberships

Association for Computing Machinery

IEEE Computer Society

Awards and Nominations

nominated for **Kroepsch-Maurice Teaching Award for Assistant Professors**, March 2002.

nominated by Computer Science Department members for **College of Arts and Sciences Dean's Lecture Award**, which recognizes excellence in both teaching and scholarship, February 2002.

awarded **Certificate for Valuable Contributions to Students**, April 2001, by the UVM 2001 Senior Class Council.