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## Christopher A. Bogart

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### **Research Interests:**

I am interested in the human-computer interaction challenges involved in supporting users trying to make sense of complex time-oriented datasets: for example programmers debugging by trying to understand program misbehaviors captured in a program trace, or scientists trying to understand the behaviors of computer models.

In my current PhD research I am studying the work practices of cognitive modelers (psychologists who model cognition in order to understand human behavior). My approach involves capturing and making explicit the “evaluation abstractions” that are usually implicit in a user’s exploration of model output. I have been building an experimental tool to support modelers at the Air Force Research Laboratory who use the ACT-R and RML cognitive modeling languages.

### **Education:**

Oregon State University, Ph.D. in progress, Computer Science (Expected graduation June 2013)  
Colorado State University, 1992, M.S. Computer Science, GPA 4.0  
Colorado State University, 1988, B.S. Computer Science, Honors, GPA 4.0  
Minors in Mathematics and Psychology

### **Training:**

ACT-R Summer school, Carnegie-Mellon University, July 2010

### **Employment History:**

Dec. 2008-Present	Graduate Research Assistant, Oregon State University
Summer 2009,10	Intern, Air Force Research Laboratory, Mesa AZ
Summer 2011	Instructor, Intro to Usability Engineering, Oregon State University
Fall 2011	Intern, Air Force Research Laboratory, Dayton OH
Sept. 2007-Dec. 2008	Graduate Teaching Assistant, Oregon State University
Summer 2008	User experience intern, Microsoft, Seattle WA
2003-2007	Software Engineer and Consultant, SKLD, Denver CO
2001-2003	Software Engineer and Consultant, Avaya, Thornton CO
1990-2001	Various software engineering contracts (see “projects” below)
1999	Basic computer skills course developer, Boulder, CO
1989-1990	Assistant English Teacher, Iruma, Japan

### **Awards and Honors:**

National Merit Scholar, 1984  
Patricia Mohilner Memorial Scholarship, 1987  
Phi Beta Kappa, 1988

### **Invited Talks:**

“How Do People Debug F#?”, Microsoft, Seattle, WA, December 15, 2008

### **Journal Articles:**

C. Scaffidi, C. Bogart, M. Burnett, A. Cypher, B. Myers, and M. Shaw, “Using traits of web macro scripts to predict reuse,” *Journal of Visual Languages and Computing* 21(5), December 2010.

- J. Lawrance, C. Bogart, M. Burnett, R. Bellamy, K. Rector, and S. D. Fleming, "How programmers debug, revisited: an information foraging theory perspective," *IEEE Transactions on Software Engineering* (to appear).
- D. Whitley, T. Starkweather, and C. Bogart, "Genetic algorithms and neural networks: Optimizing connections and connectivity," *Parallel Computing*, vol. 14, 1990, pp. 347-361.

**Conference Papers:**

- C. Bogart, M. Burnett, S. Douglass, H. Adams, R. White, "Designing a debugging interaction language for cognitive modelers: an initial case study in Natural Programming Plus". *ACM CHI*, 2012 (to appear).
- D. Piorkowski, S. Fleming, C. Scaffidi, C. Bogart, M. Burnett, B. John, R. Bellamy, C. Swart, "Reactive Information Foraging: An empirical investigation of theory-based recommender systems for programmers". *ACM CHI*, 2012 (to appear).
- D. Piorkowski, S. D. Fleming, C. Scaffidi, L. John, C. Bogart, B. E. John, M. Burnett, and R. Bellamy, "Modeling Programmer Navigation: A head-to-head empirical evaluation of predictive models," *IEEE Symposium on Visual Languages and Human-Centric Computing*, 2011, pp. 109-116.
- C. Bogart, M. Burnett, S. Douglass, D. Piorkowski, and A. Shinsel, "Does my model work? Evaluation abstractions of cognitive modelers," *IEEE Symposium on Visual Languages and Human-Centric Computing*, 2010, pp. 49-58.
- J. Lawrance, M. Burnett, R. Bellamy, C. Bogart, and C. Swart, "Reactive Information Foraging for Evolving Goals," *ACM CHI*, 2010, pp. 25-34.
- C. Scaffidi, C. Bogart, M. Burnett, A. Cypher, B. Myers, and M. Shaw, "Predicting Reuse of End-User Web Macro Scripts," *IEEE Symposium on Visual Languages and Human-Centric Computing*, 2009, pp. 93-100.
- N. Subrahmaniyan, M. Burnett, and C. Bogart, "Software visualization for end-user programmers: trial period obstacles," *ACM Symposium on Software Visualization*, 2008, pp. 135-144.
- V. Grigoreanu, J. Cao, T. Kulesza, C. Bogart, K. Rector, M. Burnett, and S. Wiedenbeck, "Can feature design reduce the gender gap in end-user software development environments," *IEEE Symposium on Visual Languages and Human-Centric Computing*, 2008, pp. 149-156.
- C. Bogart, M. Burnett, A. Cypher, and C. Scaffidi, "End-user programming in the wild: A field study of CoScripter scripts," *IEEE Symposium on Visual Languages and Human-Centric Computing*, 2008, pp. 39-46.

**Other Papers:**

- M. Burnett, C. Bogart, J. Cao, V. Grigoreanu, T. Kulesza, and J. Lawrance, "End-user software engineering and distributed cognition," *ICSE Workshop on Software Engineering for End-User Programmers*, Vancouver, BC, 2009. (to appear)
- C. Scaffidi, C. Bogart, M. Burnett, A. Cypher, B. Myers, and M. Shaw, "Characterizing reusability of end-user web macro scripts," *International Workshop on Recommendation Systems for Software Engineering*, ACM, 2008.
- C. Bogart, "Rhetorical end-user programming," *IEEE Symposium on Visual Languages and Human-Centric Computing*, Graduate Consortium Paper, 2008, pp. 260-261.

**Sample of projects completed as software engineering contracts (1990-2008):**

*Project Analysis* Provided technical and conceptual assistance to a project manager hired to analyze a large and severely delayed software project, in terms of both the status of project management, and the structure and progress of the product itself. After the analysis, I planned, installed, operated, and trained developers to use a new configuration management system using Visual SourceSafe, did installation, administration and training for defect tracking software, created custom tools in Visual Basic for carrying out a biweekly build, and developed some modules in Visual Basic as part of the product itself. (Consultant for Summit Technology, 3300 South Parker Road, Aurora, CO. April - October 2000)

*Digital Document Repository* Management of a software system for reception, indexing, and storage of scanned images of real estate documents at a title company data center. Responsibilities included supervision of three part-time personnel; liaison with fourteen county clerks supplying data; porting of code from a non-Y2K compliant Data General UNIX system to Red Hat Linux; design, creation, and support for several Visual Basic image viewer programs; UNIX system configuration and administration; Perl, UNIX shell,

and C programming; design and production of a plat image distribution consisting of 100+ CDs of images, a viewer, and a database. (Consultant for SKLD, 720 S. Colorado, Suite 1000N, Denver CO. August 1999 - February 2000; created a web interface for this system in 2006/2007)

*Computer Training:* Designed and implemented a computer training course for English- and Spanish-speaking beginning computer users, including Windows 95 and internet skills. (Consultant for Kara Stevens, Boulder Family Independence Initiative; February 1999 - June 1999)

*Graphical User Interface:* Design and implementation of various parts of a Windows 3.1 graphical user interface, for a program which simulates and determines air conditioning needs for large buildings. C++, Visual Basic, Fortran, SQL, and Crystal Reports were used. (Consultant for SEI, Associates, 2892 Shadow Creek Drive #303, Boulder, CO 80303 USA; About a year total between 1993 - 1998)

*Complaint Processing System:* Design, implementation, documentation, user training and support, of a system to accept citizen complaints at 16 offices around the city of Buenos Aires and send work orders to appropriate repair crews. Written in Visual Basic, with most functionality in ActiveX components for future migration to a web-based intranet. The database backend used Microsoft Access. Other duties included general user support and troubleshooting for city employees using Windows '95 and Office '97, and creation of various database-searching tools for a web-based intranet using ASP. (Consultant for Pablo Corvalán, Buenos Aires, Argentina. September 1997 - June 1998)

*Internet Data Publishing:* Design and implementation of a web-based data browser for the GPS/MET program's satellite atmospheric dataset. Work included HTML, CGI, and Perl programming, discussing requirements with data users, design and population of a large metadata database, and building complex SQL queries from web form input. (Consultant for University Center for Atmospheric Research (UCAR), GPS/MET Program, 3300 Mitchell Lane, Suite 245, Boulder, CO 80307-3000 USA; April 1996 - August 1997)

*Electric Utility Planning Software:* development and documentation of a C-language computer model for planning expansion and pollution control projects at electric utilities (STARRSS). Also several smaller projects involving energy, pollution, and finance in the electric utility industry. (Research Associate at RCG/Hagler, Bailly, Inc., 1881 9th Street, Boulder, CO 80302 USA; December 1991 - May 1993)