

Christine F. Reilly

Web Version – See my web page for contact information.
<http://pages.cs.wisc.edu/~chrisr>

Teaching Interests

I would enjoy teaching any introductory computer science course. Because my area of specialization is database systems, I am prepared to teach classes on the use of database management systems and on database internals. I am also qualified to teach intermediate courses in operating systems and computer architecture. Another interest is using my interdisciplinary background to develop and teach courses specifically aimed at non-majors.

Research Interests

My main research interest is scientific data management. My thesis focuses on data provenance, specifically on methods for transparently collecting provenance during the execution of a program. In the long term, I plan to collaborate with scientists in other fields in order to develop data management strategies that simplify their work. Another research interest is evaluating methods for increasing the diversity of students who study computer science.

Education

- 2010 Ph.D. Computer Sciences (expected May), University of Wisconsin-Madison.
Minor: Science and Technology Studies
- 2005 M.S. Computer Sciences, University of Wisconsin-Madison.
- 2002 M.S. Environmental and Resource Engineering, State University of New York College of Environmental Science and Forestry.
- 1999 B.S. Environmental Engineering Science, Massachusetts Institute of Technology.

Teaching Experience

Lecturer, Introduction to Programming

Summer 2009

University of Wisconsin-Madison

My main goals for the semester were to teach the 35 students object-oriented programming in Java and to enhance their logical reasoning skills. I developed the course schedule, wrote assignments and exams, prepared and presented four 75 minute lectures per week, determined grades, and supervised a teaching assistant.

Teaching Assistant, Introduction to Programming

September 2002 – May 2003

University of Wisconsin-Madison

During discussion sections I gave students opportunities to practice the skills they learned in lecture. I interacted with individual students in the computer lab and during office hours. Additionally, I graded assignments and exams.

Tutor

various times

I volunteered for two semesters at the UW-Madison Greater University Tutoring Service. Additionally, I have experience teaching basic computer skills to senior citizens.

Research Experience

Research Assistant

June 2003 – present

University of Wisconsin-Madison

I developed noninvasive methods for gathering provenance from programs that store data in files. The first part of this research examined programs that run in the Condor distributed job execution system. Currently I am working on methods for gathering fine granularity provenance from programs written in a declarative programming language. I was also part of the team that developed Quill, a tool that transparently gathers operational data from Condor.

Research Assistant

June 2000 – May 2002

SUNY Environmental Science and Forestry

My research focused on statistical methods for estimating low streamflow. For my thesis, I used a simulation to compare methods for estimating low streamflow statistics at measurement stations that have partial streamflow records. Another project compared the accuracy of different statistical techniques for estimating low streamflow quantiles when the streamflow record is incomplete.

Undergraduate Research Opportunities Program

February 1998 – June 1999

Massachusetts Institute of Technology

I built a web site and wrote fact sheets about non-native marine species in order to educate the public about the issues surrounding these species. My duties also included assisting with planning the First National Conference on Marine Bioinvasions. I was awarded two semesters of funding from MIT-UROP.

Other Work Experience

Intern

Summer 2006

Google, Inc., Mountain View, California

I developed tools to query and manage data from the software bug tracking system. This project began by building queries on the existing database. Upon finding that queries were difficult to write and slow to run, I designed a data warehouse to store bug data in a format that is better suited for the type of queries my group wanted to run.

Probabilistic Risk Assessment Center Intern

Summer 2002

SRC, North Syracuse, New York

I was the lead programmer of a Windows user interface for the USEPA's Pesticide Root Zone Model. Also, I wrote Excel macros using Visual Basic.

Environmental Specialist

July 1999 – April 2000

Beals and Thomas, Inc., *Southborough, Massachusetts*

My main responsibility was analyzing local, state and national environmental regulations in relation to proposed land developments and existing buildings. In addition to preparing various permit applications, I participated in groundwater monitoring well installation and water supply pump tests.

Peer-Reviewed Publications

Reilly, Christine F. and Jeffrey F. Naughton. Transparently gathering provenance with Provenance Aware Condor. First Workshop on the Theory and Practice of Provenance, San Francisco, California, February 2009.

Reilly, Christine F. and Jeffrey F. Naughton. Exploring provenance in a distributed execution system. In Proceedings of the International Provenance and Annotation Workshop, Chicago, Illinois, May 2006.

Reilly, C.F., and C.N. Kroll. Estimation of low streamflow statistics using baseflow correlation. *Water Resources Research*, 39(9), September 2003.

Conference Presentations

Transparently gathering provenance with Provenance Aware Condor. First Workshop on the Theory and Practice of Provenance, San Francisco, California, February 2009.

Exploring provenance in a distributed execution system. International Provenance and Annotation Workshop, Chicago, Illinois, May 2006.

Estimation of low flow frequency using cross correlation of baseflow measurements. ASCE Environmental and Water Resources Institute conference, Roanoke, Virginia, May 2002.

Service

Departmental and School Service

Treasurer, UW-Madison Student ACM Chapter. 2007 – 2009

Active Member, UW-Madison Student ACM Chapter. 2002 – present.

Active Member, UW-Madison Chapter of ACM Women in Computing. 2002 – present.

Secretary, SUNY-ESF Graduate Student Association. 2001 – 2002.

Strategic Planning Council, SUNY-ESF. 2001.

Community Service

Volunteered at events that introduce middle-school girls to computer science.

Environmental Consultant, Erie Village Homeowners Association. 2000 – 2002.

■■■■ Technical Skills

Programming and scripting languages: Java, C++, Perl, Python, HTML, CSS, SQL, XML

Operating Systems: Linux, Mac OS X, Windows XP

■■■■ References

Available upon request.