

Rance Scott Harmon

E-Communications Coordinator / Software Engineer
Center For Invasive Plant Management
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Employment

E-Communications Coordinator. Center for Invasive Plant Management.

Manage all aspects of electronic communications for the Center. Serves as webmaster for center's site, develop and maintain databases, program visual media products, develop web applications.

Graduate Teaching Assistant. Computer Science Department, Montana State University

Instructed laboratory sections for introduction to computer science and advanced programming courses. The labs used Java. Topics included objects, classes, interfaces, polymorphism, arrays, I/O, object-oriented design, stacks, queues, linked lists, debugging, efficiency, exception handling, recursion, searching, sorting, event-driven programming, Java Swing.

Software Development Intern. OthersOnline.com (acquired by the Rubicon Project)

Developed an Ajax widget for loading and manipulating a list of items (tag cloud). Wrote Ajax code for saving a list of items in an http cookie. QA testing of a new user interface. Used Apache Ant, DbUnit, and JUnit to develop automated database unit tests.

Software Development Technician. Center for Biofilm Engineering, Montana State University

Contributed to a web-based "hypertextbook" for the Center for Biofilm Engineering. Used CSS, HTML, and JavaScript to add new pages and update existing content.

Forest Stewardship Coordinator. Penn State School of Forest Resources.

Managed statewide Forest Stewardship Program. Trained and coordinated volunteers. Developed education and outreach materials: newsletter, news releases, educational bulletins, CD-ROMs, Website.

Education

M.S. in Computer Science. GPA = 3.87.

Montana State University, December 2009.

M.S in Biology (Ecology emphasis)

University of Akron

B.S. in Natural Science

University of Akron

Computer Science Projects

Master's Research

Developed dynamic Web content (interactive quizzes) for a Web-based textbook. Technologies include CSS, HTML, XML, JavaScript, Java Servlets, JavaServerPages, JavaBeans, Ajax, MySQL, Apache Tomcat, Yahoo! User Interface Library, Google Web Tools, and Eclipse Web Tools.

Design and translation of Programming Languages

Conducted a detailed study of the Ruby programming language and Ruby on Rails.

Compilers

Built a compiler in Java for a simple programming language.

Data Mining

Collaborative filtering to recommend the next link that may interest a user based on the sequence of web pages visited so far. Used WEKA data mining software.

Advanced Databases

Designed, implemented, and tested a new efficient indexing algorithm based on frequent closed sequences.

Databases

Designed and created a MySQL database for a web application.

Software Engineering II

Developed a dynamic web application. Defined requirements, specifications, project and personal scheduling; debugging; and, testing (this work became part of my master's research project).

Software Engineering I

Member of the user interface sub-team in which the entire class formed a large team to develop an application using Java Swing and Subversion version control.

Operating Systems

Thread synchronization project in C. Implemented the producer/consumer problem using threads and a doubly-linked list data structure.

Computer Organization and Architecture Lab

Assembly language programming.

Awards

Outstanding Teaching Assistant

Computer Science Department, Montana State University, 2008-2009

Pennsylvania Conservation Educator of the Year

Pennsylvania Wildlife Federation

Research Paper of the Year Finalist

Ohio Journal of Science

Publications

Extension Publications

Alison Harmon, Rance Harmon, and Audrey Maretzki. *The Food System: Building Youth Awareness through Involvement*. 1999. University Park, PA: Penn State College of Agricultural Sciences. 141 pp.

William F. Elmendorf, Shelby E. Chunko, and Rance Scott Harmon. 2001. *Forest Stewardship Bulletin 14: Backyard Trees*. University Park, PA: Penn State College of Agricultural Sciences.

Tending Your Piece of the Forest: Resources for Woodland Owners. 2004. University Park, PA: Penn State School of Forest Resources, Cooperative Extension.

Paul E. Roth and Rance Scott Harmon. 2003. *Tree Identification*. CD-ROM. University Park, PA: Penn State School of Forest Resources, Cooperative Extension.

Pennsylvania Forest Stewards Website (<http://vip.cas.psu.edu>).

Magazine, Newspaper, and Newsletter Articles

Publications include *The Upper Room*, *Outside Bozeman*, *Pennsylvania Forests*, *Centre Daily Times*, *Forest Leaves*, and several others.

News Releases

Wrote and edited news releases for the Pennsylvania Forest Stewardship Program (<http://vip.cas.psu.edu>) and the Pennsylvania Forestry Association (<http://pfa.cas.psu.edu>).

Textbook

Environmental Science: Water & Air. 1995. Paramus, NJ: Globe Fearon Educational Publishing. 92 pages. (I served as a consultant and wrote two chapters.)