

## David R. Wright

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### Professional Experience

- 02/2011 - 08/2011
- **Research Assistant**, NCSU Computer Science Department, Raleigh, NC
  - Design and implement dissertation research project.
  - Supervise verbal protocol analysis coding.
  - Design and implement web-based document review and evaluation system.
- 06/2009 - 12/2009
- **Adjunct Instructor**, ITT Technical Institute, Morrisville, NC
  - IT104 *Introduction to Programming with Python*.
  - Develop lesson plans and instructional support materials based on standardized curriculum guidelines.
  - Adapt standardized teaching materials to meet the learning needs of a wide variety of students.
  - Design homework assignments, exercises, and tests based on course objectives.
  - Assess teaching effectiveness using a variety of methods and adapt teaching methods to optimize student learning.
- 01/1994 - 02/2009
- **Freelance Computer Hardware & Software Consultant**
  - Custom personal & small business computer and local area network builds, configuration, repair, and maintenance.
  - Operating system & application software installation, configuration, and customization.
  - Personalized training on hardware and software.
  - Custom small business and personal productivity software and web site design, development, and maintenance.
- 07/2008 - 09/2008
- **Specialized Research Professional**, NCSU Graduate School, Raleigh, NC
  - Design and maintain online survey to determine competencies for graduate students who teach, specifically those participating in the Certificate of Accomplishment in Teaching program.
  - Assist the Director of Graduate Teaching Programs in data analysis and reporting.
  - Prepare literature review and preliminary outline for a research article to publish survey findings.
- 07/2008 - 08/2008
- **Administrative Support**, NCSU College of Physical and Mathematical Sciences Dean's Office, Raleigh, NC
  - Provide general administrative support for the Dean's Office.
- 09/2007 - 06/2008
- **Research Assistant**, NCSU Faculty Center for Teaching and Learning (FCTL), Raleigh, NC.
  - Develop proposals for multi-track concentrations within the FCTL's Certificate of Accomplishment in Teaching (CoAT) Program.
  - Develop core competencies for graduate student teaching.
  - Explore potential collaborations between the FCTL, The NCSU Center for Excellence in Curricular Engagement, and the NCSU Graduate School for enhanced engagement opportunities for graduate students in research and teaching.
  - Research, develop, and facilitate new in-person, online (WebCT/VISTA), and hybrid workshops for the CoAT program.
  - Design and deploy web-based workshop registration forms using INFORM and Adobe Contribute.
- 08/2006 - 05/2007
- **Instructor**, NCSU Computer Science Department, Raleigh, NC

## Professional Experience (continued)

- CSC 295D/495D *Perspectives on Software System Design*.
  - Design both courses, define learning outcomes, write course proposals and syllabi.
  - Secondary instructor for CSC295D, primary instructor for CSC495D.
  - Research course material and refine into language appropriate for undergraduate students.
  - Develop lesson plans, instructional schedule, student reading assignments, homeworks, and tests.
  - Evaluate student performance based on learning objectives and modify learning environment appropriately.
  - Assess teaching effectiveness using a variety of methods and adapt teaching methods to optimize student learning.
- 05/2006 - 08/2006, 05/2005 - 08/2005, 05/2004 - 08/2004
- **Instructor**, NCSU Computer Science Department, Raleigh, NC
  - CSC216 *Programming Concepts in Java*.
  - Develop lesson plans and instructional support materials based on departmental curriculum guidelines.
  - Design homework assignments, exercises, tests grading criteria based on course objectives.
  - Supervise 1 - 2 teaching assistants.
  - Assess teaching effectiveness using a variety of methods and adapt teaching methods to optimize student learning.
- 08/2001 - 05/2006
- **Graduate Teaching Assistant**, NCSU Computer Science Department, Raleigh, NC
  - Various undergraduate and graduate computer science courses, duties dependent upon course and instructor preferences:
    - Grade and manage student submissions, returns, and grade records.
    - Design, implement, and maintain course websites.
    - Research and organize course content.
    - Develop assignments, tests, and grading criteria.
    - Teach classes at instructor's request or absence.
- 05/1999 - 12/1999
- **Programmer, Development and Maintenance**, Level8 Systems, Inc., Cary, NC.
  - Perform software maintenance activities on enterprise middleware systems.
  - Develop enhanced keystroke-handling subroutine resolve flaws in legacy systems.
  - Migrate old branches of source tree to new version control system to allow support relating to "Y2K bug."
  - Perform pre-release testing of system updates on multiple platforms, including multiple versions of Windows, OS/2 Warp, and various Unix/Linux flavors.
  - Develop new test routines, sequences, and suites to replicate software defects.
- 05/1998 - 08/1998
- **Information Systems Specialist**, United States Postal Service Distributed Systems Certification and Deployment, Raleigh, NC
  - Provide technical support for stand-alone and networked workstations at Post Offices across the country.
  - Develop new and more efficient solutions to commonly reported problems relating to the Windows 95 operating system used on remote systems.
  - Design and implement dBase II/Clipper programs to test and repair databases on remote systems.
  - Train Help Desk staff on advanced Windows 95 troubleshooting and problem-solving techniques and developed corresponding training and support manual.
- 06/1978 - 07/1997
- **Electronic Technician, Service Manager, Business Owner** (Various companies)

## Professional Experience (continued)

- Diagnose, repair, and upgrade consumer, commercial, and industrial electronic and computer equipment, including consumer and professional audio/video, industrial machine control systems, nucleonic measuring devices, and personal/small business computer systems and peripherals.
- Supervise up to 9 technicians and support staff responsible for servicing more than 2500 units per month.
- Develop training programs for technicians and technical support personnel.

## Technical Skills

- *Programming Languages:* Java, C, C++, C#, Python, Perl, Visual Basic, SQL, Smalltalk, Standard ML, Scheme, Lisp, Prolog, Fortran, Pascal, dBaseII/III/IV & several processor-specific Assembly Languages.
- *Software Development Environments:* Visual Studio, Rational Rose, Rational Software Architect, Rational Software Modeler, IBM VisualAge, Eclipse, Visual SourceSafe, PVCS, CVS, MKS, & Subversion Version Control Systems.
- *Web Development:* Adobe Creative Suite & Dreamweaver, Microsoft FrontPage, HTML/XHTML, CSS, LAMP, JavaScript/JScript, VBScript, PHP, XML, XSLT, various FTP & SSH tools.
- *Office & Document Preparation:* Microsoft Office (including Word, Excel, PowerPoint, Visio, Publisher, & Access), Adobe Acrobat, Photoshop, & Illustrator, L<sup>A</sup>T<sub>E</sub>X Document Preparation, RefWorks, OneNote, & B<sub>I</sub>B<sub>T</sub>E<sub>X</sub> Bibliography Management.
- *Mathematical & Analytic Software:* Atlas.ti, JMP, SPSS, SAS, Mathematica, MATLAB, Maple, Lindo Systems Lingo.
- Extensive experience in the design, implementation, & management of course, personal, and home-based business websites ranging from single pages to multi-level sites containing over 150 pages with a strong emphasis on accessibility (Section 508 & WCAG 1.0) and cross-browser compatibility.
- Experience designing, implementing, and maintaining custom database-driven business software applications, including retail sales/service point-of-sale, general accounting, inventory control, and workflow tracking components.

## Education

***Ph.D. Computer Science*** (expected 2011), North Carolina State University, Raleigh, NC.

- Working Dissertation Title: “Principles, Patterns, and Process: A Framework for Learning to Make Software Design Decisions.”
- Committee: Thomas Honeycutt (Computer Science) (chair), Mladen Vouk (Computer Science), Edward Gehringer (Computer Science), John Tector (College of Design).

***M.S. Computer Science*** (2003), North Carolina State University, Raleigh, NC.

- Thesis Title: “Type-based Static Analysis of Web Documents with Embedded Executable Components.”
- Committee: Purush Iyer (chair), Matthias Stallmann, Edward Gehringer.

***B.S. Computer Science*** (2001) (Magna Cum Laude), North Carolina State University, Raleigh, NC.

## Honors

- **Walter H. Wilkinson Research Ethics Fellow**, 2007-08. Develop and report catalog of Research Ethics resources at NCSU and area institutions.
- **NCSU Preparing the Professoriate Fellow**, 2006-07. Design, teach, and assess CSC 295D and CSC 495D courses on Software System Design.
- **NCSU Junior Research Ethics Fellow**, NCSU Research Ethics Program and LANGURE (Land Grant University Research Ethics) initiative, 2005-07. Develop Computer Science/Engineering curriculum module in collaboration with Senior Fellows and wrote module core essay.
- **NCSU College of Engineering Dean’s Fellowship for Graduate Studies**, 2001-2002.

## Honors (continued)

- **Certificate of Accomplishment in Teaching**, NCSU Faculty Center for Teaching and Learning, April 2008.
- **University Outstanding Teaching Assistant Award**, NC State University Graduate Student Association and NC State Alumni Association, April 2004.
- **Upsilon Pi Epsilon Computer Science Honor Society**. Inducted Spring 2001.
- **Golden Key National Honor Society**. Inducted Spring 2000.

## Publications

- **Wright, D.** “Cultivating Expert Software Design Decision-Making: Results of a Pilot Study,” in *Proceedings of the 19th Annual Conference on Software Engineering and Data Engineering (SEDE 2010)*, San Francisco, CA, Jun 16-18, 2010.
- **Wright, D.** “Principles, Patterns, and Process: A Framework for Learning to Make Software Design Decisions.” Preliminary Oral Exam & Dissertation Proposal, April, 2010.
- Honeycutt, B., Fire, N., **Wright, D.**, and Jenkins, J. “Developing Leveled Competencies for Graduate Teaching Assistants within a Campus-Wide Effort for Graduate TA Development,” in *Proceedings of the 2008 Lilly Conference on College and University Teaching at Greensboro*, Greensboro, NC, Feb 8-10, 2008. (Workshop co-organizer and presenter)
- **Wright, D.**, Honeycutt, B., and Fire, N. “Promoting Excellence in Graduate Student Teaching: The Certificate of Accomplishment in Teaching Program at NCSU,” in *Proceedings of the 2008 Lilly Conference on College and University Teaching at Greensboro*, Greensboro, NC, Feb 8-10, 2008.
- **Wright, D.** “The Decision Pattern: Capturing and Communicating Design Intent,” in *Proceedings of The 25th ACM International Conference on Design of Communication (SIGDOC '07)*, El Paso, TX, Oct 22-24, 2007.
- **Wright, D.** “Towards a Theory of Software Design: Timeless Principles of Software System Design,” in *Proceedings of the ISCA 16th International Conference on Software Engineering and Data Engineering (SEDE-2007)*, Las Vegas, NV, July 2007.
- **Wright, D.**, “Research Ethics and Computer Science: An Unconsummated Marriage,” in *Proceedings of The 24th ACM International Conference on Design of Communication (SIGDOC '06)*, Myrtle Beach, SC, Oct. 18-20, 2006.
- Honeycutt, T. and **Wright, D.**, “Building Bridges: Connecting Research Ethics and Computer Science,” in *Proceedings of The 24th ACM International Conference on Design of Communication (SIGDOC '06)*, Myrtle Beach, SC, Oct. 18-20, 2006 (Workshop co-organizer and panelist).
- **Wright, D.**, “Capturing Organizational Wisdom for Effective Software Development” in *Proceedings of the 44<sup>th</sup> ACM Southeast Conference (ACMSE2006)*, Melbourne, FL, Mar. 10-12, 2006.
- **Wright, D.**, “Motivation, Design, and Ubiquity: A Discussion of Research Ethics and Computer Science.” LANGURE Computer Science Research Ethics Module essay, available at <http://arxiv.org/abs/0706.0484v1>.
- **Wright, D.**, Honeycutt, T., Gehringer, E., and Comstock, G., “Incorporating Ethics into Computer Science Research” LANGURE Computer Science Research Ethics Seminar, May, 2006.
- **Wright, D.**, Honeycutt, T., and Comstock, G., “Computer Science and Research Ethics” LANGURE Computer Science Research Ethics Seminar, Oct. 2005.
- **Wright, D.**, Doctoral Written Qualifying Exam: “*The Nature of Order* and the Process of Software Development.”
- **Wright, D.**, Master’s Thesis: “Type-based Static Analysis of Web Documents with Embedded Executable Components.”

## Activities and Service

- Conference Session Chair, SIGDOC 2007, SEDE 2007, SIGDOC 2006.
- President, Computer Science Graduate Student Association (CSCGSA), 2005-06, 2006-07.
- CSCGSA representative to NCSU University Graduate Student Association, 2005-06.
- Member, Association for Computing Machinery (ACM), Design of Communication Special Interest Group (SIGDOC), Software Engineering Special Interest Group (SIGSOFT), American Society for Engineering Education (ASEE), International Technology Education Association (ITEA).