

Curriculum Vitae

Tyrone S. Toland, Ph.D.

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EDUCATION

- University of South Carolina, Columbia, SC, Computer Science, Ph.D., 2005
Dissertation: “*A Study of the Inference Problem in Dynamic Databases*”
Advisors: Dr. Caroline M. Eastman and Dr. Csilla Farkas
- University of South Carolina, Columbia, SC, Computer Science, M.S., 2000
Thesis: “*An Information Retrieval System to Manage Program Maintenance Reports in a Data Processing Shop*”
Advisor: Dr. Caroline M. Eastman
- University of South Carolina Upstate, Spartanburg, SC, Computer Science Applied Mathematics Concentration, B.S., 1990

TEACHING INTERESTS

Computer Programming, Distributed Database, Database Design, Database Security, Information Retrieval, Information Security, Data Structures

RESEARCH INTERESTS

Database Security, Information Retrieval, Information Security, Web Mining Security, Service-Oriented Architecture, Web Services

ACADEMIC EXPERIENCE

- 2006 – Present, **Assistant Professor**, Department of Informatics, University of South Carolina (USC) Upstate
- 2003 – 2006, **Instructor**, Department of Informatics, University of South Carolina (USC) Upstate
- 1996 – 2003, **Adjunct Instructor**, Industry Technology and Business Department, Midlands Technical College
- Spring 2001, **Adjunct Instructor**, Math and Computer Science Department, Benedict College

- Fall 1992 – Spring 1995, **Adjunct Instructor**, Continuing Education Department, Spartanburg Technical College
- Spring 1991 – Fall 1991, **Adjunct Instructor**, Math Department, Phillips Junior College

GRADUATE SCHOOL EXPERIENCE

- Spring 2002 – Spring 2003, **Research Assistant**, Center for Information Assurance Engineering (CIAE), University of South Carolina
- Spring 2003, **Teaching Assistant**, Computer Science and Engineering, University of South Carolina, **Grader**, (CSCE 350: Data Structures and Algorithms)
- Spring 2002, **Teaching Assistant**, Computer Science and Engineering, University of South Carolina, **Grader**, (CSCE 725: Information Retrieval)
- Fall 2001, **Teaching Assistant**, Computer Science and Engineering, **Lab Monitor**
- Summer I 2001, **Teaching Assistant**, Computer Science and Engineering, University of South Carolina, **Instructor**, (CSCE 101: Introduction to Computer Concepts)
- Spring 2001, **Teaching Assistant**, Computer Science and Engineering, University of South Carolina, **Grader**, (CSCE 245: Object-Oriented Programming Techniques)
- Fall 2000, **Teaching Assistant**, Computer Science and Engineering, University of South Carolina, **Grader**, (CSCE 350: Data Structures and Algorithms)

PROFESSIONAL EXPERIENCE

- 1998 – 2000, **Systems Programmer I**, Computer Services Department, University of South Carolina, Duties: Maintain the IBM Virtual Machine (VM) system, which includes creating, modifying, deleting and resolving VM user related problems as well as installing third party VM software
- 1995 – 1998, **Computer Programmer II**, Computer Services Department, University of South Carolina, Duties: Develop and maintain Common Business Oriented Language (COBOL) programs in an Information Management System (IMS) batch and online environment

- 1992 – 1995, **Computer Programmer**, Electronic Health Transactions, Metropolitan Life Insurance Company (MetLife), Greenville, South Carolina, Duties: Maintain COBOL programs in a batch and an online environment

SCHOLARSHIP

LIST OF REFEREED PUBLICATIONS

JOURNAL

- **T. S. Toland**, C. Farkas, C. M. Eastman. “The inference problem: Maintaining maximal availability in the presence of database updates,” *Computers & Security*, Volume 29, Issue 1, February 2010, pp. 88-103.

CONFERENCE

- **T. Toland**. “Simple XML Messaging Framework,” *In the Proceedings of the 48th Annual Association for Computing Machinery (ACM) Southeast Conference*, Oxford, MS, April 15 – 17, 2010, pp. 81–87.
- **T. S. Toland**. “Yet Another Database Constraint Checker: Database Constraint Evaluator,” *47th Annual Association for Computing Machinery (ACM) Southeast Regional Conference*, Clemson, SC, March 19 - 21, 2009, (Extended Abstract).
- **T. S. Toland**, C. Farkas, C. M. Eastman. “Dynamic Disclosure Monitor (D²Mon): A Survey of Open Research Problems,” *In the Proceedings of 1st Computer Security Conference (CSC)*, Myrtle Beach, SC, April 12 - 13, 2007.
- C. Farkas, **T. Toland**, and C. Eastman. “The inference problem and updates in relational databases,” *In the Proceedings of the Fifteenth Annual IFIP WG 11.3 Working Conference on Database and Applications Security*, Niagara on the Lake, Ontario, Canada, July 15-18, 2001, pp. 171-186.
- **T. Toland** and C. Eastman. “An Information Retrieval System to Manage Program Maintenance Reports in a Data Processing Shop,” *In the Proceedings of the 38th Annual Association for Computing Machinery (ACM) Southeast Conference*, Clemson, SC, April 7-8, 2000, pp. 81–87.

WORKSHOP

- **T. Toland**, C. Farkas, and C. Eastman. “Dynamic Disclosure Monitor (D²Mon): An Improved Query Processing Solution,” *In the Proceedings of 2nd Workshop on Secure Data Management in association with the 31st International Conference on Very Large Databases (VLDB) 2005*, Trondheim, Norway, August 30 to September 2, 2005.

LIST OF REFEREED PRESENTATIONS

CONFERENCE

- **T. S. Toland.** “Yet Another Database Constraint Checker: Database Constraint Evaluator,” *47th Annual Association for Computing Machinery (ACM) Southeast Regional Conference*, Clemson, SC, March 19 - 21, 2009, (Extended Abstract).
- **T. S. Toland**, C. Farkas, C. M. Eastman. “Dynamic Disclosure Monitor (D²Mon): A Survey of Open Research Problems,” *1st Computer Security Conference (CSC)*, Myrtle Beach, SC, April 12 - 13, 2007.
- C. Farkas, **T. Toland**, and C. Eastman. “The inference problem and updates in relational databases,” *Fifteenth Annual IFIP WG 11.3 Working Conference on Database and Applications Security*, Niagara on the Lake, Ontario, Canada, July 15-18, 2001, pp. 171-186.
- **T. Toland** and C. Eastman. “An Information Retrieval System to Manage Program Maintenance Reports in a Data Processing Shop,” *38th Annual Association for Computing Machinery (ACM) Southeast Regional Conference*, Clemson, SC, April 7-8, 2000, pp. 81–87.

WORKSHOP

- **T. Toland**, C. Farkas, and C. Eastman. “Dynamic Disclosure Monitor (D²Mon): An Improved Query Processing Solution,” *2nd Workshop on Secure Data Management in association with the 31st International Conference on Very Large Databases (VLDB) 2005*, Trondheim, Norway, August 30 to September 2, 2005.

NON-REFEREED CONFERENCES AND WORKSHOPS PRESENTATION

- **T. Toland.** “A Simple XML Messaging Framework for Instruction,” *Poster Session: 2010 NSF Minority Faculty Development Workshop*, Cambridge, MA, March 21 - 24, 2010.
- **T. Toland**, C. Farkas, and C. Eastman. “The Inference Problem: Maintaining Maximal Availability in the Presences of Database Updates,” *Poster Session: Seventh Annual Future Faculty and Professionals Symposium (FFPS) in conjunction with The National Consortium for Graduate Degrees for Minorities in Engineering and Science Inc.’s (GEM Consortium) 2005 Annual Board Meeting*, Boston, MA, June 29 – July 1, 2005.
- **T. Toland** and C. Eastman. “Information Retrieval and Information Extraction Applications within a Data Processing Shop,” *South Carolina Academy of Science (SCAS)*, Greenwood, SC, April 4, 1999 (Abstract Only).

RESEARCH IN PROGRESS

- **T. S. Toland.** "Simple XML Messaging Framework 2.0," submitted 2011 to *49th Annual Association for Computing Machinery (ACM) Southeast*, rejected 2011, under revision.
- **T. S. Toland.** "Presentation, Reinforce, Evaluate (PRUE): A Pedagogy for a Multi-discipline Degree," submitted 2008, rejected 2008, under revision.
- **T. S. Toland, C. Farkas, C. M. Eastman.** "Database Updates and the Inference Problem," original submission to the *Computer and Security Journal*, original submission 2007, completed 2009.
- **T. S. Toland, C. Farkas, C. M. Eastman.** "Database Updates and the Inference Problem," original submission to the *Data and Knowledge Engineering Journal*, original submission 2004, revised 2005, submitted 2005, rejected 2007.
- **T. S. Toland, C. Farkas, C. M. Eastman.** "Privacy Collaborator: Preventing the Disclosure of Private Information in the Presence of Web Mining," submitted 2005, rejected 2005, submitted 2007, rejected 2007, under revision.

PROFESSIONAL ACTIVITIES

- **Reviewer**, National Science Foundation (NSF) Transforming Undergraduate Education in Science, Technology, Engineering, and Mathematics (TUES) Panel Meeting, **July 29-30, 2010**
- **Reviewer**, The Association for Computing Machinery (ACM) Southeast Conference, **2007** (4 papers), **2008** (7 papers), **2010** (6 papers)
- **Committee Member**, The First Computer Security Conference (CSC), Myrtle Beach, SC, April 12 - 13, 2007
- **Reviewer**, "Creative Activities, Research, and Scholarship Proposals," The Center of Undergraduate Research & Scholarship, University of South Carolina Upstate, **2005** (3 proposals)
- **Reviewer**, Journal of Database Management, **2004** (1 journal)

TEACHING

COURSES TAUGHT

- Courses Taught at **University of South Carolina Upstate**
 - Healthcare Information Security (SHIM 417)
 - Visual Basic Programming I (SCSC 139 and SIMS 186)
 - Visual Basic Programming II (SCSC 239 and SIMS 286)
 - Database System Design (SCSC 325, SIMS 420, SCSC 520I, SCSC 520)
 - Computer Security (SIMS 417)
 - Database Applications and Implementation (SIMS 421)

Data Warehousing and Decision Support Systems Technology (SIMS 421)
Senior Seminar in Information Management and Systems (SIMS 499)

- Course Taught at **Midlands Technical College**
Introductory to C and C++ Programming (CPT-234-B65)
- Course Taught at **Benedict College**
Visual BASIC (CSC 133)
- Course Taught at **University of South Carolina**
Introduction to Computer Concepts (CSCE 101)
- Course Taught at **Phillips Junior College**
Business mathematics and remedial mathematics

FACULTY DEVELOPMENT

- **Participant**, “2011 Academic Workshops for Under-represented Junior Faculty and Senior Graduate Students,” Los Angeles, CA, 2011
- **Participant**, “2010 NSF Minority Faculty Development Workshop, Cambridge, MA, March 21 - 24, 2010
- **Participant**, “2009 Academic Workshop for Underrepresented Assistant Professors, Associate Professors, and Senior Doctoral Students,” Portland, OR, 2009
- **Participant**, “Seventh Annual Future Faculty and Professionals Symposium (FFPS) in conjunction with The National Consortium for Graduate Degrees for Minorities in Engineering and Science Inc.’s (GEM Consortium), 2005 Annual Board Meeting,” Boston, MA, 2005

SERVICE

USC UPSTATE SERVICE ACTIVITIES

- **Member**, Executive Academic Affairs Committee, **2008 – present**
- **Advisor**, Department of Informatics Majors, **2003 – present**
- **Member**, Housing Appeals Committee, **2009 - 2010**
- **Member**, Faculty Search Committee, **Spring 2010, Fall 2006, Spring 2005, Spring 2004**
- **Member**, Academic Grievance Panel, College of Arts and Sciences, **2009**
- **Member**, Director of Alumni Relations, Annual Giving, and University Events Search Committee, **2009**
- **Member**, External Review Task Force, **2008 - 2009**
- **Advisor**, Office of Academic Advising for Undeclared Majors, **2006 – 2008**
- **Member**, Faculty Advisory Committee, **2005 - 2008**
- **Member**, Faculty Senate, **2005 - 2008**
- **Advisor**, African American Association (AAA), **2006 – 2007**
- **Chair**, Faculty Search Committee, **Spring 2006**

- **Entertainment Coordinator**, Opportunity Network program, **April 13, 2005**
- **Member**, Police Chief Search Committee, **2004**

NON-USC UPSTATE SERVICE ACTIVITIES

PANEL PARTICIPATION

- **Panelist**, “Getting Ready for Advanced Degrees Lab (GRAD Lab)” co-sponsored by the National Consortium for Graduate Degrees for Minorities in Engineering and Science, Inc. (*GEM Consortium*) and the Computer Science and Engineering Department at the University of South Carolina, Columbia, SC, April 21, 2007.
- **Panelist**, “Graduate Student Forum”, *8th Annual Science & Engineering Research Conference*, South Carolina Alliance for Minority Participation (SCAMP), University of South Carolina, Columbia, SC, August 2002.
- **Panelist**, “Excelling in Graduate School,” *TRIO/Ronald E. McNair Post-Baccalaureate Achieve Program*, University of South Carolina, Columbia, SC, June 2001.

INVITED MUSICAL ENGAGEMENTS

- **Piano Accompanist**, “African-American Awareness Club Program,” Dorman High School, Spartanburg, SC, **2011**
- **Director and Piano Accompanist**, “A New Year’s Eve Celebration in Word and Song,” Foster’s Grove Baptist Church, Chesnee, SC, **2009, 2010**
- **Director and Piano Accompanist**, “Sounds of Mass Voices Annual New Year’s Concert,” Spartanburg, SC, **2007, 2008, 2009, 2010**
- **Piano Accompanist**, “Annual Mother’s Day Concert,” Monks Grove Baptist Church, Monks Grove, SC, **2004 – 2008, 2010**
- **Piano Accompanist**, “Pastor Installation Service,” Macedonia Missionary Baptist, Spartanburg, SC, **2010**
- **Piano Accompanist**, “Hat Program,” Lebanon Presbyterian Church, USA, Ridgeway, SC, **2010**
- **Piano Accompanist**, “Family Day”, Lebanon Presbyterian Church, USA, Ridgeway, SC, **2009**
- **Piano Accompanist**, “Youth Choir Anniversary,” Mountain View Baptist Church, Greenville, SC, **2009**
- **Piano Accompanist**, “Most Memorable Songs Recording,” Monks Grove Baptist Church, Monks Grove, SC, **2004**

MISCELLANEOUS SERVICE ACTIVITIES

- **Instructor**, Introductory Computer Literacy Courses, Spartanburg Housing Authority, Spartanburg, SC, **2007 – 2009**
- **Participant**, College Day, McCracken Junior High School, Spartanburg, SC, **2008**
- **Participant**, College, Career and Health Fair, Piney Grove Baptist Church, Cowpens, SC, **2007**

- **Presenter**, Benefits of Computer Literacy Skills, Resident Meeting for Spartanburg Housing Authority, Spartanburg, SC, **December 5, 2006**
- **Presenter**, Obtaining a Successful Career, Urban League, Spartanburg, SC, **July 25, 2006**
- **Presenter**, Challenges of Being Accepted into Graduate School, Graduate (Grad) School Preparation (Prep) Workshop, University of South Carolina Upstate, Spartanburg, SC, **2006**
- **Judge**, Piedmont Region III Science Fair, Spartanburg, SC, **2006**
- **Special Awards Judge**, Piedmont Region III Science Fair, Spartanburg, SC, **2006**
- **Judge**, South Carolina Academy of Science (SCAS), Columbia, SC, **2006**
- **Keynote Speaker**, "Sixth Annual Banquet: Celebration of Education," Gaining Early Awareness and Readiness for Undergraduate Programs (GEAR UP), University of South Carolina Upstate, Spartanburg, SC, **August 2005**

HONORS AND AWARDS

- **Recipient**, Doc's List Award, University of South Carolina Upstate, **2007**
- **Recipient**, First African-American to be awarded a Ph.D. in Computer Science from University of South Carolina, **2005**
- **Fellow**, Graduate Assistance in the Area of National Need (GAANN) Fellowship, University of South Carolina, **2000 – 2003**
- **Second Place**, University of South Carolina Graduate Student Day, **2002**
- Selected by Computer Science and Engineering Department to present research at University of South Carolina Graduate Student Day, **2002**
- **Second Place**, Student Paper Competition, *In the Proceedings of the 38th Annual Association for Computing Machinery (ACM) Southeast Regional Conference*, Clemson, SC, **2000**
- **Recipient**, Outstanding Alumnus for the School of Humanities & Sciences, University of South Carolina Upstate, **1994**
- **Recipient**, Earl Gordon Medal of Honor, **1990**

PROFESSIONAL AFFILIATIONS

- Association for Computing Machinery (ACM) National Chapter and Student Chapter
- Institute of Electrical and Electronics Engineers, Inc. (IEEE) National Chapter
- The International Federation of Information Processing (IFIP) Working Group (WG) 11.3 on Database and Application Security