

Shelby Solomon Darnell

100 McAdams Hall
School of Computing
Clemson University
Clemson, South Carolina 29634
(864) 656-3444 sdarnel@clemson.edu FAX (864) 656-0145
<http://www.cs.clemson.edu/~sdarnel>

Education

Bachelor of Science in Computer Engineering, Auburn University, 2003
Master of Engineering in Software Engineering, Auburn University, 2006
Ph.D. in Computer Science, Clemson University, 2009-present
Expected to complete dissertation by May 2013.

Computer Languages and Databases

C, C++, C Sharp, Java, Perl, PHP, HTML, LISP, MatLab, MySQL, Oracle, PostgreSQL, MS Access

Research Interests

1. Intelligent and Interactive Systems
2. Computer and Machine Vision
3. Human Centered Computing
4. Information Retrieval and Understanding
5. Biometrics
6. Algorithm optimization

Employment, Auburn University, Auburn, AL 36832

Bellsouth Minority Engineering Program, Mentor-Tutor *Spring 2001 - Spring 2002*
Mentored two freshman pre-engineering students, each semester, about campus living and adjusting to school. Presented lecture about Study Skills in front of the entire assembly of BMEP students, close to 300 students, in the BMEP program on Sunday afternoons. Spent several hours a week tutoring the following courses:

1. Calculus I-III
2. Differential Equations
3. Computer Applications 1210, 2210 - Fundamentals of Computing I & II
4. Engineering Physics I & II

Assistant System Administrator, Department of Computer Science and Software Engineering (CSSE) *Summer 2002 to Spring 2003*

Duties included:

1. Troubleshooting general computer problems for professors and graduate students
2. Linux and Windows network administration

3. Linux server setup
4. Computer lab monitor and application administrator

College of Engineering Tutor

2002-2003

Member of the College of Engineering tutoring staff who catered only to Engineering students.

I tutored the following courses in this position:

1. Calculus I - III
2. Differential Equations
3. Computer Applications 1210, 2210 - Fundamentals of Computing I & II
4. Computer Applications 2710 - Software Construction
5. Computer Applications 3270 - Introduction to Algorithms
6. Computer Applications 3700 - Software Modeling and Design
7. Engineering Physics I & II

Undergraduate Teaching Assistant

COMP 1000 Personal Computer Applications

Summer 2003

Assisted Graduate Teaching Assistant in answering student questions about class work.

Graduate Teaching Assistant

COMP 1000 Personal Computer Applications

Fall 2003 to Spring 2005

Duties included presentation of lectures, supervision of group work, help students finish in class lesson objectives, and help prepare the final exam for the course.

Graduate Research Assistant

2004-2005

Worked with Professor Cheryl Seals; did visual programming of educational simulations with end user programming, intelligent agents, usability evaluation, computer supported collaborative work and minimalism.

Computer System Administrator for

Student-Athlete Support Services (SASS)

2004-2005

In this position I had four employees who helped troubleshoot computer problems for SASS. My staff and I jointly coordinated the movement of SASS computer systems from one installation to a new building to house several student-athlete services. I assigned programming projects to my staff as well as set their working hours so that the main SASS computer lab was monitored from 7AM until 10PM Monday through Friday.

Employment, Clemson University

Graduate Teaching Assistant

2011-present

Duties included presentation of lectures, supervision of group work, help students finish in class lesson objectives, and help prepare the final exam for the course.

Graduate Research Assistant

2009-2011

Apply computational intelligence techniques to biometric methods dealing with the periocular region of the eye.

Other Employment

Software Engineer Greenville, TX

L-3 Communications Mission Integration Division

January 2006 to July 2009

During my time at L-3Comm I performed several different jobs exceeding expectations for each position or challenge with which I was faced. The following is a list of the major tasks I completed:

1. designed and implemented client-server enterprise software using the C and Java programming languages
2. designed and implemented messaging for hardware to software communication
3. expanded tools in C Sharp for in-house DOM software
4. implemented entire set of unit tests for in-house DOM software
5. created and maintained development build/task automation script environment using Ant for new project endeavor
6. professional recruiting for company at a National Convention
7. built Systems Integration Lab for new project effort
8. organized and oversaw tasks to prepare a aircraft to be sold to our customer as a Junior project engineer

Publications

1. Gilbert, J.E., Johnson-Stokes, W., Darnell, S.S., Ekandem, J.I., Alnizami, H., Martin, A.M., (2011) **Accessible Voting: One Machine, One Vote for Everyone**. ACM CHI '11 Video Presentation, Vancouver, CA, May 10, 2011.
2. Darnell, S.S., Alvarez, I., Ekandem, J.I., Woodard, D.L. and Gilbert, J.E. (2011), **MyDash: The Biometric Digital Dashboard**, In Proceedings of the 3rd Workshop on Multimodal Interfaces for Automotive Applications (MIAA '11) organized at the 2011 International Conference on Intelligent User Interfaces (IUI '11), February 13, 2011, Palo Alto, CA, pp. 53-56.
3. Darnell, S.S., **Alleviating Escape Panic Using Evolutionary Intelligence**, Auburn University Theses and Dissertations, May 2006.
4. Carnahan, B., Muhdi, R., Fu, S., Darnell, S.S., Davis, J., Dozier, G. and Smith, A., **GENEVAC: Evolving Exits for Evacuation Models Via Steady-State Genetic Search**, Technical Report: Auburn University CSSE05-06, May 18, 2005.

Presentations

MyDash: The Biometric Digital Dashboard for MIAA 2011

This presentation introduces a digital dashboard that utilizes biometric identification to seamlessly start your car, load your personalized settings and connect you, privately and securely, to your online identity.

Workshops

3rd International Workshop on Multimodal Interfaces for Automotive Applications (MIAA)

MIAA 2011

The goal of this workshop is to present, discuss, and outline context-aware multimodal interfaces for drivers and car passengers. Providing a personalized experience for different users will be an aspect of particular interest.

Conferences

ACM 2011 International Conference on Intelligent User Interfaces

IUI 2011

IUI 2011 is the annual meeting of the intelligent interfaces community and serves as the principal international forum for reporting outstanding research and development on intelligent user interfaces. Palo Alto, CA.

Richard Tapia Celebration of Diversity in Computing

Fall 2005

Three day conference on a variety of Computer Science disciplines in Albuquerque, New Mexico.

Grant Funding

Graduate Research Assistant under Dr. Damon Woodard, Biometrics and Pattern Recognition Lab (BPRL) and Center for Academic Studies in Identity Sciences (CASIS).

Active Duration: August 1, 2009 - 2010.

Service

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1. Student Volunteer - NSF Broadening Impacts for Research and Discovery Summit (BIRDS) June 21-24, 2010

Awards and Honors

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1. Clemson University Graduate Scholars Fellowship 2009-2011
 2. Clemson University Alumni Graduate Fellowship, 2010
 3. Clemson University Graduate Research Assistantship in Biometrics, 2009.
 4. Purdue University PhD Fellowship in Computer and Information Technology, 2009 (Awarded, not accepted).
 5. Auburn University Part-time Graduate Research Assistant in Game Concepts and Technology with Dr. Cheryl Seals, 2003-2005.
 6. Auburn University Part-time Graduate Teaching Assistantship, 2003-2005.
 7. AU Board of Trustees Scholarship to Auburn University, 2000-2003.
 8. Alabama Power Foundation Scholarship to Auburn University, 2001-2002.
 9. William F. and Brenda W. Hayes Scholarship to Auburn University, 2001-2002.
 10. Minority Engineering Program Scholarship to Auburn University, 2000-2001.
 11. Tau Sigma National Honor Society Inductee, 2001 -
A transfer student honor society for those in the top 10 percent of their class.
 12. Dean's List, 1999 - University of Alabama in Huntsville.

Professional Memberships

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1. Institute of Electrical and Electronics Engineers (IEEE) Computer Society, since 2008.

2. Association for Computing Machinery (ACM), since 2009.
3. Brothers of the Academy Institute
(BOTA-<http://www.brothersoftheacademy.org>), since 2009.