

Lauren Cairco

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Education

Clemson University

Clemson, SC 29631

Ph.D. in Computer Science in progress

Winthrop University

Rock Hill, SC 29733

B.S. in Computer Science, Magna cum laude

Mathematics minor

Graduation date: May 2009

Current Research

Augmented Reality in Inspection and Quality Control

Fall 2009 - present

- Collaborating with BMW and mechanical engineers to design a multimodal user interface for vehicle inspection use by presenting the checklist for the car to the inspectors and to allow them to mark items as passing or failing inspection through voice or touch
- Evaluating various hardware options for the interface through user studies

Virtual Patients for Nursing Education

Fall 2009 - present

- Developing a system with high-fidelity virtual humans that act as patients who respond to natural language questions from a user
- Collaborating with nursing professors and students for scenario design and eventual software evaluation

Previous Research Experience

Computer Science Research Experience for Undergraduates (REU) at UNC Charlotte

Summer 2006

- Worked with existing framework to develop new application called Shakespearean Karaoke using C++ , OpenGL, and Haptik
- Shakespearean Karaoke allowed a user to act out a scene with a virtual actress inside of a virtual environment using a joystick and a head-mounted display
- Tied for second place award for end of REU presentations

Cognitive Science REU at UNC Charlotte

Fall 2006-Spring 2007

- Modified Shakespearean Karaoke (SK) to be projected on a large screen
- Designed and carried out user study to find out how well people learned using SK

Computer Science REU at UNC Charlotte
Summer 2007

- Worked with a team to develop new web-based framework for a virtual character named AVARI (Animated Virtual Agent Retrieving Information)
- AVARI uses speech to listen to and answer questions about computer science professors
- Designed and implemented AVARI's conversational flow, and developed software for vision
- Tied for first place award for end of REU presentations

Human Computer Interaction REU at Virginia Tech
Summer 2008

- Developed an application to support HCI product design using storyboarding
- Conducted a pilot study to evaluate usability of storyboarding application
- Attended seminars with other students to develop leadership and research skills

Stars Alliance: Research Group
Fall 2006-Spring 2009

- Developed Girl Scout Internet safety curriculum with other team members
- Mentoring team members and a lower level computer science student
- Leading team meetings, coordinating team events, and making outside contacts
- Planning and hosting computing outreach events for underrepresented groups

Publications

Wahid, S., Branham, S., **Cairco, L.**, McCrickard, D.S., and Harrison, S. Picking Up Artifacts: Storyboarding as a Gateway to Reuse. In *Proceedings of Interact 2009: The 12th IFIP Conference on Human-Computer Interaction* (Uppsala, Sweden, August 24-28, 2009).

Cairco, L., Wilson, D.M., Fowler, V., LeBlanc, M. Avari: Animated Virtual Agent Retrieving Information. To appear in *Proceedings of the 47th ACM Southeast Conference* (Clemson, SC, USA, March 19-21, 2009). ACMSE '09. ACM, New York, NY.

Cairco, L., and McCrickard, D. S. Encouraging Design Reuse and Contribution in HCI Storyboarding. In ACM Student Research Competition at SIGCSE (Chattanooga, TN, USA, March 4-7, 2009). SIGCSE '09. ACM, New York, NY.

Dahlberg, T., Barnes, T., Rorrer, A., Powell, E., and **Cairco, L.** 2008. Improving retention and graduate recruitment through immersive research experiences for undergraduates. In *Proceedings of the 39th SIGCSE Technical Symposium on Computer Science Education* (Portland, OR, USA, March 12 - 15, 2008). SIGCSE '08. ACM, New York, NY, 466-470.

Cairco, L., S. Babu, A. Ulinski, C. Zambaka, L. F. Hodges (2007). Shakespearean Karaoke. In *Proceedings of ACM Virtual Reality Systems and Technology 2007 (VRST07)*, Newport Beach, CA, November 5-7, 2007.

Academic Honors

2009 NSF Graduate Research Fellowship Recipient

Clemson University R.C. Edwards Graduate Fellowship Recipient, Fall 2009

Recipient of 2008 Essam El-Kwae Student-Faculty Research Award, with Dr. Larry F. Hodges

Recipient of South Carolina Palmetto Fellows Scholarship and Winthrop University Trustees Scholarship

Member of Upsilon Pi Epsilon National Computer Science Honors Society

Vice President of Kappa Mu Epsilon National Mathematics Honors Society