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# Jennifer L. Sabourin

formerly Jennifer L. Robison

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## Education

- **Doctoral Student - North Carolina State University** (Fall 2008 - Present)
  - Major: Computer Science
  - Advisor: Dr. James Lester
  - GPA: 4.0
- **B.S. - North Carolina State University** (Fall 2004 - Spring 2008)
  - Major: Computer Science
  - Minors: Psychology and Cognitive Science
  - GPA: 4.0 - Valedictorian

## Research Interests

- My research interests include **artificial intelligence** and its application in **education**. Specifically, I am interested in issues concerning computational models of **empathy**, **affect** expression and detection, **self-efficacy** and **meta-cognitive strategies**.

## Awards

- Acceptance to Preparing the Professoriate Program (2011)
- Outstanding Graduate Teaching Assistant Award Nomination (2010)
- Mentored Teaching Assistantship Award (2009)
- Best Student Paper Award – Affective Computing and Intelligent Interaction (2009)
- National Science Foundation Graduate Research Fellow (2008-2011)
- North Carolina State University Dean’s Fellow (2008-2010)
- Valedictorian, North Carolina State University (2008)
- College of Engineering Senior Award for Scholarly Achievement (2007-2008)

## Activities

- Coordinator/Mentor for SPARCS Middle School Outreach program (2007-Present)
  - This program consists of monthly Saturday sessions in which we attempt to increase interest in computing by introducing middle school students to topics in Computer Science
  - Responsibilities include developing and presenting educational content to students, organizing meaningful activities and field trips, and mentoring other participants in the program.
- Participant in the STARS Alliance program for Broadening Participation in Computing (2007-Present)
  - This NSF-funded program aims to increase participation in Computer Science through research, outreach and industry experience
- Participant in the Preparing the Professoriate Program (Fall 2011 – Present)
- Participant in the Certificate of Accomplishment in Teaching program (2010-Present)
- Computer Science Honors Program (2006-2008)
- Phi Kappa Phi Honors Society (2006-2008)
- Participant in University Scholars Program at North Carolina State University (2004-2008)

## Publications

### Book Chapters

- James Lester, Bradford Mott, Jennifer Sabourin, Jonathan Rowe, and Lucy Shores (in press). Supporting Self-Regulated Learning in Narrative-Centered Learning Environments. In Azevedo, R. and Aleven, V. (Eds.) *International Handbook of Metacognition and Learning Technologies*. Berlin: Springer.
- James Lester, Scott McQuiggan, and Jennifer Sabourin (in press). Affect Recognition and Expression in Narrative-Centered Learning Environments. In Calvo, R. and D'Mello, S (Eds.) *New Perspectives on Affect and Learning Technologies*. New York: Springer.

### Journal Articles

- Scott McQuiggan, Jennifer Robison, and James Lester (2010). Affective Transitions in Narrative-Centered Learning Environments. *Educational Technology & Society*, 13 (1), 40-53.

### Conference Proceedings

- Jennifer Sabourin, Bradford Mott, and James Lester. Modeling Learner Affect with Theoretically Grounded Dynamic Bayesian Networks. To appear in: *Proceedings of the 4<sup>th</sup> International Conference on Affective Computing and Intelligent Interaction (ACII-2011)*. Memphis, Tennessee, 2011.
- Jennifer Sabourin, Jonathan Rowe, Bradford Mott, and James Lester. When Off-Task in On-Task: The Affective Role of Off-Task Behavior in Narrative-Centered Learning Environments. To appear in: *Proceedings of the 15<sup>th</sup> International Conference on Artificial Intelligence in Education (AIED-2011)*, Auckland, New Zealand. 2011.
- Jennifer Robison, Scott McQuiggan and James Lester. Developing Empirically Based Student Personality Profiles for Affective Feedback Models. In *Proceedings of the Tenth International Conference on Intelligent Tutoring Systems (ITS-2010)*, Pittsburgh, Pennsylvania. 2010.
- Jennifer Robison, Scott McQuiggan and James Lester. Evaluating the Consequences of Affective Feedback in Intelligent Tutoring Systems. In *Proceedings of International Conference on Affective Computing and Intelligent Interaction*, Amsterdam, the Netherlands, pp. 37-42, 2009. (Best Student Paper Award)
- Jennifer Robison, Jonathan Rowe, Scott McQuiggan and James Lester. Predicting User Psychological Characteristics from Interactions with Empathetic Virtual Agents. To appear in *Proceedings of the 9th International Conference on Intelligent Virtual Agents*, Amsterdam, the Netherlands, pp. 330-336, 2009.
- Jennifer Robison, Scott McQuiggan and James Lester. Modeling Task-Based vs. Affect-Based Feedback Behavior in Pedagogical Agents: An Inductive Approach. In *Proceedings of the 14th International Conference on Artificial Intelligence and Education*, Brighton, England, pp 25-32, 2009.
- Jonathan Rowe, Scott McQuiggan, Jennifer Robison, and James Lester. Off-Task Behavior in Narrative-Centered Learning Environments. In *Proceedings of the 14th International Conference on Artificial Intelligence and Education*, Brighton, England, pp 99-106, 2009.
- Scott McQuiggan, Jennifer Robison, and James Lester. Affective Transitions in Narrative-Centered Learning Environments, *Proceedings of the Ninth International Conference on Intelligent Tutoring Systems*, pp 490-49, 2008.
- Scott McQuiggan, Jennifer Robison, Robert Phillips, and James Lester. Modeling Parallel and Reactive Empathy in Virtual Agents: An Inductive Approach, *Proceedings of the Seventh*

*International Joint Conference on Autonomous Agents and Multi-Agent Systems*, pp 167-174, 2008.

### **Workshop, Symposium and Doctoral Consortium Proceedings**

- Jennifer Robison and Lucy Shores. Supporting Collaborative Learning in Narrative-Centered Learning Environments. *Proceedings of the Grace Hopper Celebration of Women in Computing*. Atlanta, GA, 2010.
- Lucy Shores, Jennifer Robison, Jonathan Rowe, Kristin Hoffman, and James Lester. Narrative-Centered Learning Environments: A Self-Regulated Learning Perspective. In *Working Notes of the 2009 AAAI Fall Symposium on Cognitive and Metacognitive Educational Systems*, Washington, DC. 2009.
- Jennifer Robison. Affective Support in Narrative Centered Learning Environments. *Proceedings of the Doctoral Consortium in conjunction with the International Conference on Affective Computing and Intelligent Interaction*, Amsterdam, the Netherlands.
- Jonathan Rowe, Scott McQuiggan, Jennifer Robison, Derrick Marcey, and James Lester. StoryEval: An Empirical Evaluation Framework for Narrative Generation. In *Working Notes of the 2009 AAAI Spring Symposium on Intelligent Narrative Technologies II*, Washington D.C. 2009.
- Jennifer Robison, Scott McQuiggan, and James Lester. Differential Affective Experiences in Narrative-Centered Learning Environments. *Proceedings of the ITS'08 Workshop on Emotional and Cognitive Issues in Intelligent Tutoring Systems*, 2008.
- Scott McQuiggan, Kristin Hoffmann, John Nietfeld, Jennifer Robison, and James Lester. Examining Self-Regulated Learning in a Narrative-Centered Learning Environment: An Inductive Approach to Modeling Metacognitive Monitoring. *Proceedings of the ITS'08 Workshop on Metacognition and Self-Regulated Learning in Educational Technologies*, 2008.

### **Work Experience**

- **SAS Institute** May 2010 – Present
  - Technical Student working with the Education Practice
  - Focus on independent research, development and prototyping of educational technologies
  - Lead programmer for a mobile story-telling application for elementary grade students
    - iOS development for iPad
    - Support for additional eReaders including Amazon Kindle and Barnes and Noble Nook.
  - Developed prototype of a system named WRITE aimed at guiding students through the prewriting and drafting stages of writing
    - Built with HTML5 and CSS3 technologies
    - Also uses JavaScript, JSP, MySQL
  - Currently designing a research study to test the effectiveness of the WRITE system and gather data for student modeling to improve the system
- **NCSU Department of Computer Science** Jan 2008-Present
  - Research Assistant working with the Intellimedia research group
  - Conducting and reporting on new research in areas including Artificial Intelligence, Intelligent Tutoring Systems, Affective Computing, Machine Learning and Virtual Agents
- **SAS Institute** May 2005-Aug 2008
  - Technical Student working with IT Management Solutions testing and development groups

- Worked with development team on the product IT Resource Management 3.1.1 – using Java
- Design and development of tools to aid testing and development processes, such as:
  - Owner of tool for managing development images and deploying the images to team members – using Apache Ant and JSP
  - Automated GUI testing framework – using Java Jemmy
  - Data processing and comparison tool – using SAS and Apache Ant
  - JUnit testing and reporting framework – using Apache Ant