

AMBER WAGNER

Department of Computer Science
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RESEARCH INTERESTS

Computer Science Education, Human Computer Interaction, Model-Driven Engineering

EDUCATION

2010 - Present **University of Alabama** **Tuscaloosa, AL**

- Ph.D., Computer Science, *expected* 2015
- Upsilon Pi Epsilon

2007 - 2008 **Kennesaw State University** **Kennesaw, GA**

- M.S., Information Systems
- Graduated summa cum laude

2000 - 2003 **Kennesaw State University** **Kennesaw, GA**

- B.S., Computer Science with Spanish and Math Minors
- Graduated magna cum laude

PROFESSIONAL EXPERIENCE

Aug 2011 – Present **University of Alabama** **Tuscaloosa, AL**

Research Assistant

- Researching the automation of a process to map a graphical user interface to a vocal user interface for any application. Specific application is in the area of "Programming by Voice" with adaptation to initial programming environments (e.g., Scratch) that allow children with physical disabilities an opportunity to learn computer programming through a vocal interface. Work is supported by NSF grant IIS-1117940 with previous support from a Google Research Award.
- Responsible for the annual grant renewal documentation in addition to the annual IRB renewal process.
- Planned and led two Computer Science Fun Days for children with disabilities. The activities aimed to share the joy of computing with 10-15 year old students. Work was funded by CSCP Mini-Grant (\$1,000).

Teaching Assistant

- Assisted in teaching a pilot course for the AP College Board regarding fundamental Computer Science topics utilizing Berkeley's BYOB and Android App Inventor. Duties: grading, creating and delivering lectures, and tutoring students.

Aug 2007 – Jan 2011 **Kennesaw State University** **Kennesaw, GA**

Associate Director, Technology Planning and Strategy

- Led team of three employees while overseeing management of all IT projects (75 person department).
- Utilized statistical software to strengthen reporting infrastructure (SAS, SPSS, Excel)
- Utilized strong knowledge of systems infrastructure and administration to cross-develop optimal solutions for the University on Active Directory, Exchange, Windows, Unix, and Mac environments.
- Developed ad-hoc applications to streamline, automate, and standardize system interactions.
- Designed and developed project management foundation for IT, utilizing and distributing innovative reporting, tracking, and project management fundamentals. Responsible for ensuring all projects were on time, on budget and delivered desired results.
- Developed reporting format to increase project communication between sections with the department.

Technology Trainer

- Trained faculty, staff, and students on Word, Excel, PowerPoint, Publisher, and Dreamweaver.
- Drove outreach strategy through class offerings, marketing initiatives, technology mediums, and user experience.

Camp Instructor

- Taught vb.net to a high school summer camp (CyberTech) for four weeks (two sessions).
- Developed curriculum for and taught a two week middle school camp including: Pico Robots, Legos Mindstorms, Alice, and Scratch.
- During the Fall Semester, I developed curriculum for and taught Java to high school students in preparation for the AP Computer Science course through collaboration with Georgia Tech.

Oct 2008 - Jan 2009 University of Alabama at Birmingham (UAB)

Birmingham, AL

Assistant Alice Instructor

- Assisted other UAB personnel in teaching Alice to two high school classes.
- Following the lesson, assisted students one-on-one to reinforce concepts taught.

Jan 2006 - Jun 2008 Alabama School of Fine Arts

Birmingham, AL

Database Administrator/ Programmer

- Managed Student Database including all necessary reporting (STI).
- Designed, developed, and maintained yearly online registration application and online admissions application (ASP.NET with VB.NET, MS Access).
- Delivered ad-hoc database applications such as attendance letter application and GPA automated reporting program (MS Access).

Aug 2004 - May 2007 Alabama School of Fine Arts

Birmingham, AL

Computer Science Instructor

- Taught numerous levels of Computer Programming from beginner to college level, AP Computer Science AB, and Computer Applications.
- Served on three committees: Technology Committee, Professional Development Committee, and BRAVO Committee.
- Led professional development sessions in teaching teachers how to integrate technology into curriculum, used the technology currently in their classroom, and introduced the latest in educational technology.
- Participated in/attended workshops including: AP Summer Institutes and workshops to increase awareness of technology education in Alabama.
- Took students to programming competitions at the University of Alabama at Birmingham. In 2007, one student placed first, and our team placed first in the team award.

JOURNAL PAPERS

- **Amber Wagner** and Jeff Gray, "An empirical evaluation of a vocal user interface for programming by voice," *International Journal of Information Technologies and Systems Approach* (Special Issue on Human-Computer Interaction, Carina Gonzalez, ed.), vol. 8, no. 2, May 2015, pp. 47-63.
- Ferosh Jacob, **Amber Wagner**, Prateek Bahri, Susan Vrbsky, and Jeff Gray, "Simplifying the development and deployment of mapreduce algorithms," *International Journal of Next-Generation Computing* (Special Issue on Cloud Computing Yugyung Lee and Praveen Rao, eds.), vol. 2, no. 2, 2011, pp. 123-142.

CONFERENCE PAPERS AND EXTENDED ABSTRACTS

- **Amber Wagner.** Myna: Empowering motorically challenged students to program by voice. *SIGCSE 2014 Student Research Competition*. Atlanta, GA, March 2014.
2nd Place Winner in Graduate Category
- **Amber Wagner.** Automation of VUI to GUI mapping. *SIGCHI 2013 Doctoral Consortium*. Paris, France, April 2013.
- **Amber Wagner,** Jeff Gray, Jonathan Corley, David Wolber. Using App Inventor in a K-12 summer camp. *SIGCSE 2012*. Denver, CO, March 2013.

- **Amber Wagner**, Ramaraju Rudraraju, Srinivasa Datla, Avishek Banerjee, Mandar Sudame, and Jeff Gray, Programming by voice: A hands-free approach for motorically challenged children, *ACM SIGCHI Conference on Human Factors in Computing Systems*, Austin, TX, May 2012, pp. 2087-2092.
- **Amber Krug**, Pamila Dembla, Improving data quality via increasing the usability of the interface, *Global Information Technology Management Association (GITMA) World Conference*, Atlanta, GA, June 2008.

POSTERS AND ACCEPTED ABSTRACTS

- **Amber Wagner**, Jeff Gray. Observations of first learners with different capabilities. *SIGCSE 2014*. Atlanta, GA, March 2014.
- Jeff Gray, Mary Boehm, Carol Crawford, Kathleen Haynie, Sheryl Packman, Deepa Muralidhar, Jeff Baker, Roy Black, Sandy Falgout, Leella Holt, Albert Lily, Gina McCarley, James Morse, Jennie Rountree, Jill Westerlund, Carol Yarbrough, Mokter Hossain, Jonathan Corley, **Amber Wagner**, Cassidy Lamm. Model for statewide deployment of CS Principles courses. *SIGCSE 2014*. Atlanta, GA, March 2014.
- **Amber Wagner**, Jeff Gray. An empirical evaluation of Myna – A vocal user interface. *SEWIC 2013*. Guntersville, AL, November 2013.
- **Amber Wagner**. Myna: Empowering motorically challenged students to program by voice. *SEWIC 2013*. Guntersville, AL, November 2013.
- **Amber Wagner**. Creating a vocal user interface for initial programming environments. *2013 UA Systems Scholars Institute*. Huntsville, AL, May 2013.
- **Amber Wagner**, Jeff Gray Creating a VUI for initial programming environments. *ACM Mid-Southeast 2012*, Gatlinburg, TN, November 2012.

1st Place Winner - Doctoral Research Award

HONORS AND AWARDS

- Microsoft Student Research Competition, 2nd Place Winner, Graduate Category – March 2014
- Travel award for SIGCSE conference (2014) due to Student Research Competition participation (\$500.00)
- Research and Creative Activity Fellowship, University of Alabama – 2013-2014
- University of Alabama 3 Minute Thesis finalist – Fall 2013
- Travel award for Doctoral Consortium participant at SIGCHI 2013 (\$1930.00)
- Committee on the Status of Women in Computing Research (CRA-W) Travel Award (\$1529.91)
- ACM Mid-Southeast, 1st Place Doctoral Research Award winner – November 2012
- Outstanding Service by a Graduate Student, College of Engineering, University of Alabama – Jan. 2012

SERVICE

- Middle and High School Hour of Code Instructor – December 2014
- STEM Entrepreneurship Academy speaker – Summer 2014
- Graduate Student Association Computer Science Representative – Spring 2014
- Founded the League of Women Coders (LWC) organization at the University of Alabama – Spring 2014
- Upsilon Pi Epsilon officer – Spring 2014
- University of Alabama Robotics Competition – April 2011, April 2014
- SIGCSE 2014 Student Volunteer – March 2014
- High School Robotics Workshop, Northridge High School, Tuscaloosa – Spring 2013, Spring 2014
- Reviewer: OOPSLA 2011, MODELS 2011, SIGCSE 2014
- 4H Computer Science Talk – July 2013

- United Cerebral Palsy Summer Camp, Birmingham, AL – Summer 2013
- University of Alabama High School CS Summer Camps – June 2011, July 2012, July 2013
- Google CS4HS Teacher Workshop – July 2011, June 2012, June 2013
- Best Robotics Marketing Judge – October 2012
- TSA Middle School Video Game Competition Judge – March 2011
- Statewide Teacher Robotics Workshop – November 2011
- After School Robotics Club, Tuscaloosa, AL – Fall 2011

MEMBERSHIPS

- Association for Computing Machinery (ACM) Computer Science Teachers Association – 2006
- ACM – 2011
- ACM Special Interest Group for Computer Science Education – 2011
- ACM Special Interest Group for Computer-Human Interaction – 2011
- League of Women Coders (LWC) at the University of Alabama – Founder and President, Spring 2014