

Gail Carmichael

Education

September 2009 – present

PhD Computer Science

Carleton University, Ottawa, ON

- Interactive storytelling, educational games, and augmented reality

September 2007 – September 2009

Master of Computer Science

Carleton University, Ottawa, ON

- Computer vision and panoramic image matching

September 2002 – May 2007

Bachelor of Computer Science, Honours, Minor in Mathematics

Carleton University, Ottawa, ON

- Software and computing stream, co-op option, CGPA 11.87 out of 12.0 (highest honours)

Publications and Posters

Carmichael, G., Biddle, R., Mould, D. **Unlocking the Power of Augmented Reality**. *Submitted to IEEE Pervasive Computing*.

Carmichael, G. **Cognitive Theories and the Value of Augmented Reality**. *CRA-W Grad Cohort*, 2011. Poster.

Carmichael, G., Laganière, R., and Bose, P. **Global Context Descriptors for SURF and MSER Feature Descriptors**. *The Seventh Canadian Conference on Computer and Robot Vision (CRV2010)*. 309-316. June 2010.

Carmichael, G. **Matching Spherical Panoramas to Planar Photographs**. M.C.S. thesis, Carleton University, Ottawa, Canada, 2009.

Carmichael, G. **Girls, computer science, and games**. *SIGCSE Bull.* 40, 4, 107-110. Nov. 2008.

Presentations

Carmichael, G. **A Taxonomy of Techniques in Nonlinear Fiction**. *Experiencing Story With/In Digital Games, Entretiens Jacques Cartier*, 2011.

Carmichael, G., Villanueva-Rosales, N. **How to Start a "WISE" Group (and Keep it Alive!)**. *Ontario Celebration of Women in Computing*, 2010.

Carmichael, G., Hutton, M., Sadowski, C., Smith, G., Sullivan, A. **Girls, Games, and Getting to the First Day**. *Grace Hopper Celebration of Women in Computing*, 2010.

Carmichael, G. **Girls, computer science, and games.** *Grace Hopper Celebration of Women and Computing*, 2009.

Agarwal, A., Bustos Arellano, P., Carmichael, G., Dej, B., Maldonado Rodriguez, A., Ngai, S., Osborne, L., Villanueva-Rosales, N., and Wu, W. **Support Groups for Women in STEM: International Perspectives.** *Grace Hopper Celebration of Women in Computing*, 2009.

Carmichael, G. Dej, B. **How to Build a Women in Science/Engineering/Technology Support Group.** *National Conference on Women in Engineering*. 2008.

Teaching

Contract instructor assignments:

- COMP 1001: **Introduction to Computers for Arts Students** (*Summer 2010, 2011*)

Teaching assistant assignments (* indicates leading tutorials):

- COMP 3501: **Foundations of Game Programming and Computer Graphics** (*Fall 2011*)
- **Teaching Assistant Mentor** (*Fall 2009 – Winter 2011*)
- COMP 1805: **Discrete Structures*** (*Spring 2009*)
- COMP 1501: **Introduction to Computer Game Design*** (*Fall 2008*)
- COMP 3007: **Programming Paradigms** (*Fall 2007, Winter 2008*)

Mini-courses designed and delivered:

- **Computer Science and Games: Just for Girls**, Enrichment Mini-Course Program, Carleton University (*May, 2008-2011*)

Selected workshops most recently designed and delivered:

- **Intro to Scratch Programming**, Girl Develop It Ottawa, (*September 2011*)
- **Computer Science, Minimal Spanning Trees, and Finite State Machines**, Girls @ Virtual Ventures (junior and senior) (*July 2011*)
- **Connecting Computer Science to Games**, Futures Fair Mock University Lectures, Almonte District High School (*March 2011*)
- **TA Day: Relearning and Reviewing Old Material**, TA Mentor Program, Carleton University (*January 2011*)
- **Computer Science and Photography**, Let's Talk Science, St Mark Catholic High School (*January 2011*)
- **Handling Difficult Situations**, TA Mentor Program, Carleton University (*November 2010*)
- **Assessment: Creating Assignments, Grading Consistently**, TA Mentor Program, Carleton University (*October 2010*)
- **Teaching During Office Hours**, TA Mentor Program, Carleton University (*September 2010*)
- **Computer Science, Finite State Machines, and Searching**, IBM E.X.I.T.E. Camp (*August 2010*)
- **Computer Science, Programming Languages, Cryptographic Protocols, and Image Representation**, Girls @ Virtual Ventures (*July 2010, August 2010*)
- **Help! Nobody Understands My Lecture!**, TA Mentor Program, Carleton University (*March 2010*)
- **Computer Science, Binary Numbers, and Cryptography**, Let's Talk Science, St Mark Catholic High School (*January 2010*)

Certifications:

- Carleton University Education Development Center Graduate University Teaching Skills (GUTS) Certificate (*June 2010*)
- Carleton University Education Development Center Certificate in Teaching Skills (*April 2009*)
- Mindtrust Leadership Development Program (*April 2007*)

Service

Anita Borg Institute for Women and Technology, Member of Board of Advisors (*2010 – present*)

Carleton University Women in Science Engineering Mentoring Program, Mentor (*2010 – present*)

Carleton University Women in Science Engineering, Internal Affairs Executive (*2007 – 2011*)

Let's Talk Science, Science Outreach Volunteer (*2008 – 2011*)

Grace Hopper Celebration of Women in Computing, Online Communities Committee Member (*2010*)

Grace Hopper Celebration of Women in Computing, Volunteer and Head Blogger (*2008, 2009, 2010*)

International Symposium on Mixed and Augmented Reality, Student Volunteer (*2009*)

Carleton Computer Science Society, President (*2006 – 2007*)

Awards

Carleton University Domestic Tuition Doctoral, Departmental Scholarship (*2009 – 2013*)

NSERC Post Graduate Scholarship Doctoral (*2009 – 2011*)

Google Student Travel Award for Grace Hopper Celebration of Women in Computing (*2009*)

Google Canada Anita Borg Memorial Scholarship Finalist (*2008, 2009*)

Carleton University Graduate Student Association Honour Award (*2009*)

NSERC Canada Graduate Scholarship Masters (*2007 – 2009*)

Carleton University Domestic Tuition Masters, Departmental Scholarship (*2007-2009*)

Senate Medal for Outstanding Academic Achievement (*2007*)

NSERC Industrial Undergraduate Student Research Award (*2004, 2006*)

CIPS Ottawa Section Scholarship (*2003, 2005*)

David A. Thomas Scholarship in Computer Science (*2004*)

Nortel Networks Entrance Scholarship (*2002 – 2007*)

Governor General Bronze Academic Medal (*2002*)

Extra-Curricular Activities

The Female Perspective of Computer Science (<http://compscigail.blogspot.com>), Blogger (2007 – present)

North Grenville Photography Club, Member and Webmaster (2009 – present)

ITF Taekwondo, Second Degree Black Belt Student, Occasional Instructor (2003 – present)

CRA-W Grad Cohort, Delegate and Poster Presenter (2009, 2010, 2011)

Microsoft Imagine Cup Game Design Competition (2011)

Google Campus Ambassador Program, Carleton University Ambassador (2006 – 2009)

Employment History

September 2011 – December 2011

Mobile Web Developer, Heritage Passages Live Virtual Museum, Carleton University, Ottawa, ON
Software design, front-end JavaScript development, SVN

September 2011 – December 2011

Computer Science Teaching Assistant, Carleton University, Ottawa, ON
Guest lecturing, designing and leading tutorials, maintaining course blog, marking assignments

May 2010 – June 2010, May 2011 – June 2011

Contract Instructor, Carleton University, Ottawa, ON
Designing and teaching course 'Intro to Computers for Arts and Social Sciences'

May 2008, May 2009, May 2010, May 2011

Enrichment Mini-Course Instructor, Carleton University, ON
Designing and teaching week-long course 'Computer Science and Games: Just for Girls!' for grade eight students

September 2009 – April 2010, September 2010 – April 2011

Computer Science Teaching Assistant Mentor, Carleton University, Ottawa, ON
Providing support for computer science TA's, including designing workshops and organizing social activities

September 2007 – April 2008, September 2008 – April 2009

Computer Science Teaching Assistant, Carleton University, Ottawa, ON
Designing and leading tutorials, office hours, marking assignments

May 2007 – August 2007

Google Summer of Code Participant for Inkscape
C/C++, SVN, solving text and font issues

May 2004 – December 2004, May 2006 – September 2006

Software Developer (Co-op), Ross Video, Ottawa, ON
Embedded systems programming, Linux, C, CVS, developing features for production video switcher

May 2005 – September 2005, January 2006 – April 2006

Software Developer (Co-op), Corel Corporation, Ottawa, ON
Windows programming, C++, Microsoft Visual Studio and Visual Source Safe, solving text and font issues