

## Education

Massachusetts Institute of Technology Media Lab  
Master of Science in Media Arts and Sciences projected May 2012. Present GPA 4.0/4.0

Arizona State University Ira A. Fulton School of Engineering and Barrett Honors College  
Master of Science in Computer Science with Arts, Media, and Engineering concentration May 2010. GPA 4.0/4.0  
Bachelor of Science in Computer Science May 2009. Summa cum laude, GPA 3.86/4.0

## Research

- Sep. 2010 – present*     *Robotic Playmates for Second Language Learning in Preschool; Playtime Computing*  
Personal Robots Group at MIT Media Lab; advisor Dr. Cynthia Breazeal  
→ Performing ongoing research in social robotics and novel educational technologies for children
- Sep. 2008 – May 2010*     *Toys Keeping in Touch: Playful Tangible Interfaces for Remote Interactions*  
Arizona State University Fulton Undergraduate Research Initiative and Honors Thesis; Dr. Winslow Burleson  
→ Performed research in distance communications and user interfaces for K-5 children  
→ Project was awarded \$10,000 University Grant from Nokia Corporation
- Sep. 2007 – Sep. 2008*     *Active Learning Environment with Robotic Tangibles (ALERT)*  
→ Worked with a team to develop innovative robotics curriculum modules for Arizona high school students  
→ Created development platform, developed and tested pedagogy in core programming concepts
- Sept. 2008 – Nov 2008*     *Supercomputing 2008 Cluster Challenge*  
ASU High Performing Computing Initiative, Microsoft Corporation  
→ Led team of undergraduates in parallel computing competition at National Supercomputing Conference  
→ Ported scientific codes to Windows HPC Server 2008 platform
- Sep. 2007 – Aug. 2008*     *Paradigms for Parallel Computation*  
ASU High Performing Computing Initiative; advisor Dr. Dan Stanzione  
→ Team project to evaluate programming paradigms in high performance computing  
→ Ported scientific applications representative of a range of computational models into Unified Parallel C

## Employment

- June 2010 – August 2010*     Nokia Research Center I.D.E.A. Team, Palo Alto, California, Intern  
→ Participated in development and in-depth user evaluation of a novel online reading tool for families  
→ Prototyped independent project about a long-distance communication toolkit
- Dec 2009, March 2010*     Burgeon Group, Phoenix, Arizona, Intern  
→ Developed and programmed electronic installations for children's libraries  
→ Trained staff in electronics and microcontroller programming
- Oct. 2006 – Dec. 2008*     High Performance Computing Initiative, Arizona State University, Student Worker  
→ Custom compiled and installed cluster-wide software for users on 2000+ core research cluster  
→ Performed system benchmarks to inform choice of file system during major system upgrade  
→ Wrote user and administrator documentation and automation scripts
- Sep. 2005 – July 2007*     Hayden Library, Arizona State University, Student Worker  
→ Prepared presentation materials for library workshops  
→ Catalogued and maintained library acquisitions

## Skills

<i>Systems</i>	Linux administration, Mac OS X, Windows.
<i>Software</i>	Microsoft Office. Adobe Suite: Photoshop, Illustrator, InDesign. Eclipse IDE. Eagle PCB Layout. 3D modeling in Rhino, SolidWorks, SketchUp. iMovie.
<i>Languages</i>	Java, C, Python, Max/MSP, bash shell scripting. Familiar with C++, Scheme, Prolog, Perl, HTML, JSP, SQL, Drupal, Android, Mac OS X Applescript. Arduino IDE, microcontroller programming in C, parallel programming in C (MPI and UPC), threads and network programming in Java.
<i>Fabrication</i>	Laser cutter, vinyl cutter, CNC milling, hand and machine sewing, 3D printing, molding and casting, digital and analog electronics, wood shop and machine shop tools.

## Teaching

<i>July 2009, July 2010</i>	Center for New Music and Audio Technology, University of California Berkeley, Teaching Assistant → Built physical demonstrations for electronic textiles and microcontroller programming workshop → Assisted workshop participants in developing physical computing projects
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## Publications

- Freed, N., Qi, J., Sylla, C., Branco, P. **Beyond the Binding: Exploring the Future Book.** In *Proceedings of the 8th ACM conference on Creativity and cognition*, Atlanta, Georgia. November 2011.
- Freed, N., Qi, J., Setapen, A., Buechley, L., Breazeal, C., Raffle, H. **Sticking Together: Handcrafting Personalized Communication Interfaces.** *Proceedings of the Conference on Interaction Design and Children*, Ann Arbor, Michigan. June 2011.
- Raffle, H., Revelle, G., Mori, K., Ballagas, R., Buza, K., Horii, H., Kaye, J., Cook, K., Freed, N., Go, J., Spasojevic, M. **Hello, Is Grandma There? StoryVisit: Family Video Chat and Connected E-Books.** *CHI 2011*, Vancouver, B.C. May 2011.
- Freed, N., Burlleson, W., Raffle, H., Ballagas, T. & Newman, N. **"User interfaces for tangible characters: Children connecting remotely through toy perspectives,"** *Proceedings of the Conference on Interaction Design and Children*, Barcelona, Spain. June 2010.
- Freed, N. **Toys Keeping In Touch: Technologies for Distance Play,** Student Paper, *Proceedings of the Fourth International Conference on Tangible, Embedded and Embodied Computing*, Cambridge, MA. January 2010.
- Freed, N. Giles, Z., Jimenez, B. G., Lu, P., Wellington, R.A., **"Windows HPC Server 2008 at the SC08 Cluster Challenge,"** *Linux Clusters Institute Conference*, Boulder, CO. March 2009.
- Lahey, B., Burlleson, W., Jensen, C. N., Freed, N., and Lu, P. 2008. **"Integrating video games and robotic play in physical environments,"** *Proceedings of the 2008 ACM SIGGRAPH Symposium on Video Games*, New York, NY, 107-114
- Speyer, G., Freed, N., Akis, R., Stanzone, D., and Mack, E. 2008. **"Paradigms for Parallel Computation."** *Proceedings of the 2008 DoD HPCMP Users Group Conference.* IEEE Computer Society, Washington, DC, 486-494.

## Awards

- 2009 Google Anita Borg Scholar
- School of Computing and Informatics Class of 2009 Distinguished Senior in Computer Science
- School of Computing and Informatics Class of 2009 Distinguished Senior in Computer Science
- 2009 Computing Research Association's Outstanding Undergraduate Award Honorable Mention
- 2008-2009 Helen K. and Stanley C. Delpier Scholarship
- 2005 National Merit Finalist Scholarship, renewed through Spring 2009

## Activities

MIT: Co-founder of Media Lab Crafternoon, MIT ESL for Service Employees volunteer, competed with team in TEI 2011 Design Challenge (Design a Superhero).

ASU: Raised funds and organized events for ASU Linux User Group, tutored at-risk children through hands-on learning in ASU Service Learning Internship program, outreach through engineering project demonstrations at ASU 2007 and 2008 Sally Ride Science Festival, designed class activities as a teacher's aide in French at the New School for the Arts in Tempe, AZ.