

# LARA J. MARTIN

ljmartin@gatech.edu • laramartin.net • (609) 975-9799

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## *Curriculum Vitae*

### **EDUCATION:**

- Georgia Institute of Technology, Atlanta, GA** **Aug 2015-Present**  
School of Interactive Computing, College of Computing  
Ph.D. Human-Centered Computing  
*Advisor:* Dr. Mark O. Riedl
- Carnegie Mellon University, Pittsburgh, PA** **Aug 2013-Aug 2015**  
Language Technologies Institute, School of Computer Science  
Master of Language Technologies
- Rutgers University, New Brunswick, NJ** **Sept 2009-May 2013**  
School of Arts and Sciences - Honors  
Double Major: B.S. Computer Science and Linguistics – Honors, Magna Cum Laude
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### **RESEARCH EXPERIENCE:**

**Applied Scientist Intern, Alexa Smart Home Machine Learning**  
**Amazon.com Inc, Seattle, WA** **May 2017-Aug 2017**

- Implemented neural networks for addressing implicit targeting—where the device name is underspecified—under Evan Welbourne
- Navigated big data to extract relevant information

**Graduate Research Assistant, School of Interactive Computing**  
**Georgia Institute of Technology, Atlanta, GA** **Jan 2016-Present**

- Creating a computational improvisational story-generating agent in Python under the guidance of Professor Mark Riedl

**Graduate Research Assistant, Language Technologies Institute**  
**Carnegie Mellon University, Pittsburgh, PA** **Sept 2014-Aug 2015**

- Created a speech-to-speech translation system for UPMC under Professor Alan W Black
- Worked with non-English-speaking foreign patients who wish to communicate with hospital staff without the expense of a human translator

**Graduate Research Assistant, Language Technologies Institute**  
**Carnegie Mellon University, Pittsburgh, PA** **Sept 2013-Aug 2014**

- Optimized accuracy of emotion classifiers for speech
- Researched improvements in audio summarization using para-linguistics to improve multimedia event detection (MED) and recounting (MER) for TREC Vid

**Undergraduate Researcher, Department of Computer Science**  
**Rutgers University, Piscataway, NJ** **Sept 2012-Aug 2013**

- Worked in an artificial intelligence lab under Professor Matthew Stone
- Designed, created, and ran an experiment for a model of uncertainty in spoken English
- Created an interface for the subjects of the experiment using Java
- Analyzed data with TOBI transcription and Praat
- Wrote a senior thesis to present work; research was later published at SLT 2014

**Intern, Institute for Creative Technologies  
University of Southern California, Playa Vista, CA**

**Summer 2011**

- Worked on the Virtual Patient Project (Patrick Kenny, Director)
- Wrote a chatbot for virtual patient using Bruce Wilcox's language Chatscript
- Created authoring tool for Chatscript language using Java
- Created and ran experiments comparing my system to the project's current chat system

**Research Assistant, Aresty Undergraduate Research Program  
Rutgers University, Piscataway, NJ**

**Sept 2010-May 2011**

- Worked in the phonetics lab conducting research about geminates and amplitude drop under Professor Shigeto Kawahara
- Ran perception experiments on English-speaking subjects
- Created a tool in JAVA that would read in a file and calculate the total amount of correct responses per participant
- Presented resulting work at the Aresty Undergraduate Research Symposium, Rutgers University, NJ, April 29, 2011 ([poster](#))

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**PUBLICATIONS:**

- Lara J. Martin\***, Prithviraj Ammanabrolu, William Hancock, Shruti Singh, Brent Harrison, & Mark O. Riedl. "Event Representations for Automated Story Generation with Deep Neural Nets." *Workshop on Machine Learning for Creativity (KDD 2017)*, Halifax, Nova Scotia, August 14-17, 2017 ([arXiv](#), [slides](#)).
- Lara J. Martin\***, Brent Harrison, & Mark O. Riedl. "Improvational Computational Storytelling in Open Worlds." *In Proceedings of Ninth International Conference on Interactive Digital Storytelling (ICIDS 2016) / INT 9*, Los Angeles, California, November 15-18, 2016 ([pdf](#), [slides](#)).
- Lara J. Martin\***, Andrew Wilkinson, Sai Sumanth Miryala, Vivian Robison, & Alan W Black. "Utterance Classification in Speech-to-Speech Translation for Zero-Resource Languages in the Hospital Administration Domain." *In Proceedings of IEEE Automatic Speech Recognition and Understanding Workshop 2015 (ASRU 2015)*, Scottsdale, Arizona, December 13-17, 2015 ([pdf](#); [poster](#)).
- Lara Martin\***, Matthew Stone, Florian Metze, & Jack Mostow. "A Methodology for Using Crowdsourced Data to Measure Uncertainty in Natural Speech." *In Proceedings of IEEE Spoken Language Technologies Workshop 2014 (SLT 2014)*, South Lake Tahoe, Nevada, December 7-10, 2014 ([pdf](#); [poster](#)).
- Shouou-I Yu, Lu Jiang, Zexi Mao, Xiaojun Chang, Xingzhong Du, Chuang Gan, Zhenzhong Lan, Zhongwen Xu, Xuanchong Li, Yang Cai, Anurag Kumar, Yajie Miao, **Lara Martin**, Nikolas Wolfe, Shicheng Xu, Huan Li, Ming Lin, Zhigang Ma, Yi Yang, Deyu Meng, Shiguang Shan, Pinar Duygulu Sahin, Susanne Burger, Florian Metze, Rita Singh, Bhiksha Raj, Teruko Mitamura, Richard Stern, & Alexander Hauptmann. "Informedia@ TRECVID 2014 MED and MER." *In Proceedings of TRECVID 2014*, University of Central Florida, Orlando, FL, November 10-12, 2014 ([pdf](#)).
- Seungwhan Moon, Saloni Potdar, & **Lara Martin**. "Identifying Student Leaders from MOOC Discussion Forums through Language Influence." *In Proceedings of Modeling Large Scale Social Interaction in Massively Open Online Courses Workshop (EMNLP 2014)*, Doha, Qatar, October 25, 2014 ([pdf](#)).
- Sarah Cosentino, Susanne Burger, **Lara Martin**, Florian Metze, Tatsuhiro Kishi, Kenji Hashimoto, Salvatore Sessa, Massimiliano Zecca, & Atsuo Takanishi. "A multisensory non-invasive system for laughter analysis." *In Proceedings of 36th Annual International IEEE EMBS Conference*, Chicago, IL, August 26-30, 2014 ([pdf](#)).
- Nikolas Wolfe, Vinay Vyas Vemuri, **Lara J. Martin\***, Florian Metze, & Alan W. Black. "Applause: A Learning Tool for Low-Resource Languages." *In Proceedings of Designing Speech and Language Interactions Workshop (CHI 2014)*, Toronto, Canada, April 26, 2014 ([pdf](#)).

\*Presented

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**AWARDS:**

CRA-W Grad Cohort Participation Grant	2016
Lockheed Martin Corporation Scholarship for Participation at Grace Hopper	2013
Phi Beta Kappa Member	2013
SAS Excellence Award	2012
Pennapps – Best Mashery Use Award	2012
Microsoft Imagine Cup – Honorable Mention	2011
National Society of Collegiate Scholars	2011-2013
School of Arts and Sciences Honors Program	2009-2013
Dean’s List	2009-2013
Rutgers University James Dickson Carr Scholarship	2009-2013
Edward J. Bloustein Distinguished Scholar	2009-2013

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**TEACHING:**

<b>Graduate Teaching Assistant</b>	Fall 2016
Introduction to Artificial Intelligence, Dr. Mark O. Riedl <i>Georgia Institute of Technology</i>	
<b>Graduate Teaching Assistant</b>	Fall 2015
Introduction to Cognitive Science, Dr. Rosa I. Arriaga <i>Georgia Institute of Technology</i>	
<b>Tutor in Computer Science</b> , Honors Program <i>Rutgers University</i>	2010
<b>Peer Leader</b> , Intro to Computer Science Class <i>Rutgers University</i>	Fall 2010
<b>Private Piano Teacher under Florence Adler</b> <i>Shamong, NJ</i>	2009

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**OUTREACH AND LEADERSHIP:**

<b>Volunteer</b>	2013-2015
Taught CS to Middle Schoolers Women@SCS Club & SCS4All Club for Promoting Diversity and Understanding in Computing <i>Carnegie Mellon University</i>	
<b>Presenter, Slideshow</b>	August 17, 2013
“Secrets of Computer Science Revealed” <i>STARS Alliance Celebration, Atlanta, GA</i>	
<b>Presenter, Poster</b>	August 16, 2013
“CS Outreach Amongst Piscataway Youth” <i>STARS Alliance Celebration, Atlanta, GA</i>	
<b>Presenter, Slideshow</b>	July 11, 2013
“Language Technologies and Finding My Own in College” <i>Upward Bound Event, Rutgers University, NJ</i>	
<b>Volunteer</b>	2012- 2013
Taught CS to Middle Schoolers Douglass-DIMACS Computing Corps <i>Rutgers University</i>	
<b>President</b>	2012- 2013
Women in Computer Science Club <i>Rutgers University</i>	
<b>Webmaster</b>	2010-2011
Women in Computer Science Club <i>Rutgers University</i>	

**Treasurer**

Undergraduate Linguistics Club  
*Rutgers University*

2011-2013

**Teacher/Support Officer**

Unplugged (Board Game Club)  
*Rutgers University*

2010-2012

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**PROFESSIONAL ACTIVITIES:**

Attendee: CRA-Women Graduate Cohort Workshop, San Diego, CA, April 15-16, 2016.  
Attendee: NIST TREC Vid 2013 Conference, Gaithersburg, MD, November 20-22, 2013  
Attendee: Anita Borg Institute's Grace Hopper Celebration, Minneapolis, MN, October 2-5, 2013  
Presenter: "A Model of Uncertainty in Language".  
Slideshow Presentation at REU Site Meeting, University of Pennsylvania, PA, July 18, 2013.

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**SKILLS:**

Programming Languages: Python, Java, C, Bash, HTML, CSS, Javascript, C++, C# (with XNA), Praat, Matlab, MySQL, PHP, XML, XQuery, Visual Basic, x86 Assembly, Scheme, Prolog  
Applications and Toolkits: openSMILE, NLTK, LaTeX, Festival/FestVox/Flite, LightSide, Praat, Eclipse, Netbeans, Weka  
Languages: Intermediate Spanish  
Certifications: CITI Collaborative Institutional Training Initiative (10/2015)