

# Lara J. Martin

[laramartin.net](http://laramartin.net)

Research Areas: Applied Language Technologies, Artificial Intelligence, Computational Creativity, Dialog Systems, Interactive Narrative, Prosodic Modeling

## EDUCATION

Aug 2015 - Present

### GEORGIA INSTITUTE OF TECHNOLOGY – Atlanta, GA

- + School of Interactive Computing, College of Computing  
Ph.D. Human-Centered Computing  
*Advisor:* Dr. Mark O. Riedl

*Certifications:*

- CITI Collaborative Institutional Training Initiative (10/2015)  
[Tech to Teaching](#) Certification (Summer 2018)

Aug 2013 – Aug 2015

### CARNEGIE MELLON UNIVERSITY – Pittsburgh, PA

- + Language Technologies Institute, School of Computer Science  
Master of Language Technologies

Sept 2009 – May 2013

### RUTGERS UNIVERSITY – New Brunswick, NJ

- + School of Arts and Sciences - Honors

*Double Major:*

B.S. Computer Science and Linguistics – Honors, Magna Cum Laude

## TEACHING

Summer 2018

### Georgia Institute of Technology

#### INSTRUCTOR OF RECORD

- + CS 3790 Introduction to Cognitive Science

Fall 2016

#### GRADUATE TEACHING ASSISTANT

- + CS 3600 Introduction to Artificial Intelligence, Dr. Mark Riedl

Fall 2015

#### GRADUATE TEACHING ASSISTANT

- + CS/Psych 3790 Introduction to Cognitive Science, Dr. Rosa I. Arriaga

2010

### Rutgers University – New Brunswick

#### HONORS PROGRAM TUTOR

- + Computer Science Tutor

Fall 2015

#### PEER LEADER FOR RECITATION

- + 198:111 Introduction to Computer Science, Pradip Hari

Jan 2016 - Present

**GRADUATE RESEARCH ASSISTANT**

**SCHOOL OF INTERACTIVE COMPUTING** – Georgia Institute of Technology

- + Creating a computational improvisational story-generating agent under the guidance of Professor Mark O. Riedl

May 2017 - Aug 2017

**APPLIED SCIENTIST INTERN**

**ALEXA SMART HOME MACHINE LEARNING** – Amazon.com Inc, Seattle, WA

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

Sept 2014 - Aug 2015

**GRADUATE RESEARCH ASSISTANT**

**LANGUAGE TECHNOLOGIES INSTITUTE** – Carnegie Mellon University

- + 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

Sept 2013 - Aug 2014

**GRADUATE RESEARCH ASSISTANT**

**LANGUAGE TECHNOLOGIES INSTITUTE** – Carnegie Mellon University

- + 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 TRECVID

Sept 2012 - Aug 2013

**UNDERGRADUATE RESEARCHER**

**DEPARTMENT OF COMPUTER SCIENCE** – Rutgers University–New Brunswick

- + 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

Summer 2011

**INTERN**

**INSTITUTE FOR CREATIVE TECHNOLOGIES** – University of Southern California

- + 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

Sept 2010 – May 2011

## RESEARCH ASSISTANT

### ARESTY UNDERGRADUATE RESEARCH PROGRAM – Rutgers University

- + 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](#))

## PUBLICATIONS

### Refereed Conference

**Lara J. Martin\***, Prithviraj Ammanabrolu, Xinyu Wang, William Hancock, Shruti Singh, Brent Harrison, & Mark O. Riedl. "Event Representations for Automated Story Generation with Deep Neural Nets." Thirty-Second AAAI Conference on Artificial Intelligence (AAAI-18), New Orleans, Louisiana, February 2-7, 2018 ([pdf](#), [poster](#), [code](#)). [<25% Acceptance Rate]

**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](#)). [36% Acceptance Rate]

**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 2015 (ASRU 2015)*, Scottsdale, Arizona, December 13-17, 2015 ([pdf](#), [poster](#)). [47.8% Acceptance Rate]

**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 2014 (SLT 2014)*, South Lake Tahoe, Nevada, December 7-10, 2014 ([pdf](#), [poster](#)). [48.6% Acceptance Rate]

Shoou-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](#)).

### Refereed Workshop

**Lara J. Martin\***, Srijan Sood, & Mark O. Riedl. "Dungeons and DQNs: Toward Reinforcement Learning Agents that Play Tabletop Roleplaying Games." *In Proceedings of AAAI Joint Workshop on Intelligent Narrative Technologies (INT) and Intelligent Cinematography and Editing (WICED)*, Edmonton, Alberta, November 13-14, 2018 ([pdf](#), [slides](#)).

**Lara J. Martin\***, Prithviraj Ammanabrolu, Xinyu Wang, Shruti Singh, Brent Harrison, Murtaza Dhuliawala, Pradyumna Tambwekar, Animesh Mehta, Richa Arora, Nathan Dass, Chris Purdy, & Mark O. Riedl. "Improvational Storytelling Agents." *In*

Proceedings of Workshop on Machine Learning for Creativity and Design (NeurIPS 2017), Long Beach, CA, December 8, 2017 ([pdf](#), [poster](#)).

**Lara J. Martin\***, Prithviraj Ammanabrolu, William Hancock, Shruti Singh, Brent Harrison, & Mark O. Riedl. "Event Representations for Automated Story Generation with Deep Neural Nets." In Proceedings of Workshop on Machine Learning for Creativity (KDD 2017), Halifax, Nova Scotia, August 14-17, 2017 ([arXiv](#), [slides](#)).  
[~38% Acceptance Rate]

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](#)).

## AWARDS

2016	CRA-W Grad Cohort Participation Grant
2013	Lockheed Martin Corporation Scholarship for Participation at Grace Hopper
2013	Phi Beta Kappa Member
2012	School of Arts and Sciences Excellence Award
2012	Pennapps – Best Mashery Use Award
2011	Microsoft Imagine Cup – Honorable Mention
2011-2013	National Society of Collegiate Scholars
2009-2013	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

## OUTREACH

### Volunteer

June 20-23, 2016

Tech Camp at *Bridge Academy*  
+ *Georgia Institute of Technology & Bridge Academy*

#### Teaching CS to Middle Schoolers:

2013-2015

Women@SCS Club &  
SCS4All Club for Promoting Diversity and Understanding in Computing  
+ *Carnegie Mellon University*

2012-2013

Douglass-DIMACS Computing Corps  
+ *Rutgers University*

**Presenter**

Aug 17, 2013

**Slideshow:**

"Secrets of Computer Science Revealed"

- + STARS Alliance Celebration, Atlanta, GA

July 11, 2013

"Language Technologies and Finding My Own in College"

- + Upward Bound Event, Rutgers University, NJ

Aug 16, 2013

**Poster:**

"CS Outreach Amongst Piscataway Youth"

- + STARS Alliance Celebration, Atlanta, GA

**PROFESSIONAL  
ACTIVITIES**

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**LOCAL ORGANIZING CHAIR**

- + Fifteenth AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment (AIIDE), Georgia Institute of Technology, Atlanta, Georgia, Fall 2019.

**ASSOCIATE PROGRAM CHAIR – TECHNOLOGIES TRACK**

- + International Conference for Interactive Digital Storytelling (ICIDS), Trinity College Dublin, Ireland, December 5-8, 2018.

**PROGRAM COMMITTEE MEMBER**

- + 2019 Procedural Content Generation Workshop at the Foundations of Digital Games (FDG) Conference, San Luis Obispo, California, August 2019.
- + Second Knowledge Extraction from Games (KEG-19) workshop at the Thirty-Third AAAI Conference on Artificial Intelligence (AAAI-19), Hilton Hawaiian Village, Honolulu, Hawaii, January 27, 2019.
- + North American Chapter of the Association for Computational Linguistics: Human Language Technologies (NAACL HLT) 2018 First Workshop on Storytelling, New Orleans, LA, June 5, 2018.

**ARTIFACT EVALUATION COMMITTEE MEMBER**

- + Fourteenth AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment (AIIDE), University of Alberta, Canada, November 13-17, 2018.

**INVITED SPEAKER**

- + Lara J. Martin and Matthew Stone. *A Model of Uncertainty in Language*. REU Site Meeting, University of Pennsylvania, PA, July 18, 2013.

**ATTENDEE**

- + CRA-Women Graduate Cohort Workshop, San Diego, CA, April 15-16, 2016.
- + NIST TRECVID 2013 Conference, Gaithersburg, MD, November 20-22, 2013.
- + Anita Borg Institute's Grace Hopper Celebration, Minneapolis, MN, October 2-5, 2013.

**INSTITUTIONAL SERVICES**

Fall 2018  
Fall 2018-Present  
Fall 2017-Present

**GEORGIA INSTITUTE OF TECHNOLOGY**

Faculty Hiring Committee Member  
Graduate Student Council  
Website Manager for the Human-Centered Computing program

Spring '16, '17, '18  
Spring 2016

*School of Interactive Computing's Prospective Student Visit Week:*  
Volunteer  
Coordinator

**INDIVIDUAL STUDENT GUIDANCE**

Spring 2019-Present  
Summer 2018-Present  
Summer 2018-Spring 2019  
Summer 2018-Fall 2018  
Spring 2018  
Spring 2017-Spring 2018

Jainesh Doshi, MS Computer Science  
Srijan Sood, MS Computer Science  
Sonia Sargolzaei  
Taha Merghani, MS Computer Science  
Ethan Tien, BS Computer Science  
Prithviraj Ammanabrolu, BS Computer Science  
+ Now CS PhD student at Georgia Tech

**MEDIA COVERAGE**

[Pictionary-Playing AI Sketches the Future of Human-Machine Collaborations](#)  
(mention)  
+ *IEEE Spectrum*. Eliza Strickland, Feb 6, 2019.  
[Georgia Tech Artificial Intelligence Research Includes Collaborative Approaches with Humans, Automating Content, and More](#)  
+ *Georgia Tech GVU Center*. Joshua Preston, Feb 2, 2018.  
[Improvisational Computational Storytelling in Open Worlds](#)  
+ *Medium*. Mark Riedl, Jul 24, 2017.