

# Lara J. Martin, Ph.D.

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

*Research Interests:* Human-Centered Artificial Intelligence, Computational Creativity, Automated Story Generation, Speech Processing, Affective Computing, Conversational Agents, Cognitive Systems

## EDUCATION

Aug 2015 – Dec 2020

### GEORGIA INSTITUTE OF TECHNOLOGY – Atlanta, GA

+ School of Interactive Computing, College of Computing

Ph.D. Human-Centered Computing

Advisor: Dr. Mark O. Riedl

Thesis: [Neurosymbolic Automated Story Generation](#)

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

Double Major:

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

## EMPLOYMENT

Jan 2021 – Present

### [COMPUTING INNOVATION FELLOW \(CIFELLOW\)](#) POSTDOCTORAL RESEARCHER

+ Computer and Information Science, University of Pennsylvania

Aug 2015 – Dec 2020

### GRADUATE RESEARCH ASSISTANT

+ School of Interactive Computing, Georgia Institute of Technology

May 2017 – Aug 2017

### APPLIED SCIENTIST INTERN

+ Alexa Smart Home Machine Learning, Amazon.com Inc

Sept 2013 – Aug 2015

### GRADUATE RESEARCH ASSISTANT

+ Language Technologies Institute, Carnegie Mellon University

## TEACHING

Summer 2018	<b>Georgia Institute of Technology</b>
	<b>INSTRUCTOR OF RECORD</b>
	+ CS 3790 Introduction to Cognitive Science
	<b>GRADUATE TEACHING ASSISTANT</b>
Fall 2016	+ CS 3600 Introduction to Artificial Intelligence, Dr. Mark Riedl
Fall 2015	+ CS/Psych 3790 Introduction to Cognitive Science, Dr. Rosa I. Arriaga
Summer 2019	<b>OUTREACH</b>
	+ Clarks Scholars Summer Python Bootcamp <i>Created syllabus &amp; lesson plan</i>
Summer 2016	+ Tech Camp, Georgia Institute of Technology & Bridge Academy <i>Guided students on "maker" projects</i>
	<b>Carnegie Mellon University</b>
2013-2015	<b>OUTREACH</b>
	+ Women@SCS Club & SCS4All Club for Promoting Diversity and Understanding in Computing, Carnegie Mellon University <i>Taught CS basics to middle schoolers</i>
2012-2013	<b>Rutgers University – New Brunswick</b>
	<b>OUTREACH</b>
Fall 2010	+ Douglass-DIMACS Computing Corps, Rutgers University <i>Taught CS basics to middle schoolers</i>
	<b>PEER LEADER FOR RECITATION</b>
Fall 2010	+ 198:111 Introduction to Computer Science, Pradip Hari

## PUBLICATIONS

Refereed Conference * Presented	P. Ammanabrolu*, E. Tien, W. Cheung, Z. Luo, W. Ma, <b>L. J. Martin*</b> , & M. O. Riedl. "Story Realization: Expanding Plot Events into Sentences." AAAI 2020 ( <a href="#">pdf</a> , <a href="#">arXiv</a> , <a href="#">poster</a> , <a href="#">code</a> ). [20.6% Acceptance Rate]
	P. Tambwekar, M. Dhuliawala*, <b>L. J. Martin*</b> , A. Mehta, B. Harrison, & M. O. Riedl. "Controllable Neural Story Plot Generation via Reward Shaping." IJCAI 2019 ( <a href="#">pdf</a> , <a href="#">arxiv</a> , <a href="#">slides</a> , <a href="#">poster</a> ). [17.9% Acceptance Rate]
	<b>L. J. Martin*</b> , P. Ammanabrolu, X. Wang, W. Hancock, S. Singh, B. Harrison, & M. O. Riedl. "Event Representations for Automated Story Generation with Deep Neural Nets." AAAI 2018 ( <a href="#">pdf</a> , <a href="#">poster</a> , <a href="#">code</a> ). [<25% Acceptance Rate]
	<b>L. J. Martin*</b> , B. Harrison, & M. O. Riedl. "Improviseational Computational Storytelling in Open Worlds." International Conference on Interactive Digital Storytelling (ICIDS) 2016 ( <a href="#">pdf</a> , <a href="#">slides</a> ). [36% Acceptance Rate]
	<b>L. J. Martin*</b> , A. Wilkinson*, S. S. Miryala, V. Robison, & A. W. Black. "Utterance Classification in Speech-to-Speech Translation for Zero-Resource Languages in the Hospital Administration Domain." ASRU 2015 ( <a href="#">pdf</a> , <a href="#">poster</a> ). [47.8% Acceptance Rate]

**L. Martin\***, M. Stone, F. Metze, & J. Mostow. "A Methodology for Using Crowdsourced Data to Measure Uncertainty in Natural Speech." *SLT 2014* ([pdf](#), [poster](#)). [48.6% Acceptance Rate]

S. Yu\*, L. Jiang, Z. Mao, X. Chang, X. Du, C. Gan, Z. Lan, Z. Xu, X. Li, Y. Cai, A. Kumar, Y. Miao, **L. Martin**, N. Wolfe, S. Xu, H. Li, M. Lin, Z. Ma, Y. Yang, D. Meng, S. Shan, P. D. Sahin, S. Burger, F. Metze, R. Singh, B. Raj, T. Mitamura, R. Stern, & A. Hauptmann. "Informedia@ TRECVID 2014 MED and MER." *TRECVID 2014* ([pdf](#)).

P. Ammanabrolu\*, E. Tien, W. Cheung, Z. Luo, W. Ma, **L. J. Martin**, & M. O. Riedl. "Guided Neural Language Generation for Automated Storytelling." *Storytelling Workshop at ACL 2019*([pdf](#)).

**L. J. Martin\***, S. Sood, & M. O. Riedl. "Dungeons and DQNs: Toward Reinforcement Learning Agents that Play Tabletop Roleplaying Games." *AAAI Joint Workshop on Intelligent Narrative Technologies (INT) and Intelligent Cinematography and Editing (WICED) at AIIDE 2018* ([pdf](#), [slides](#)).

**L. J. Martin\***, P. Ammanabrolu, X. Wang, S. Singh, B. Harrison, M. Dhuliawala, P. Tambwekar, A. Mehta, R. Arora, N. Dass, C. Purdy, & M. O. Riedl. "Improvisational Storytelling Agents." *Workshop on Machine Learning for Creativity and Design at NeurIPS 2017* ([pdf](#), [poster](#)).

**L. 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 at KDD 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 at EMNLP 2014* ([pdf](#)).

S. Cosentino\*, S. Burger, **L. Martin**, F. Metze, T. Kishi, K. Hashimoto, S. Sessa, M. Zecca, & A. Takanishi. "A multisensory non-invasive system for laughter analysis." *Annual International IEEE EMBS Conference 2014* ([pdf](#)).

N. Wolfe\*, V. V. Vemuri, **L. J. Martin\***, F. Metze, & A. W Black. "Applause: A Learning Tool for Low-Resource Languages." *In Proceedings of Designing Speech and Language Interactions Workshop at CHI 2014* ([pdf](#)).

## Refereed Workshop

\* Presented

## INSTITUTIONAL SERVICE

Summer 2019

Spring '16, '17, '18

Fall 2018

Fall 2018-Spring 2019

Fall 2017-Spring 2019

Spring 2016

## GEORGIA INSTITUTE OF TECHNOLOGY

Reviewer for *President's Undergraduate Research Awards (PURA)*

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

Faculty Hiring Committee Member

Graduate Student Council Member

Website Manager for the *Human-Centered Computing* program

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

## PROFESSIONAL ACTIVITIES

### INVITED SPEAKER

*Dungeons and Discourse: Using Computational Storytelling & Speech to Look at Natural Language Use.*

- + IPaT Thursday Think Tank: Future of Language Research, Invited Panelist. Atlanta, GA, February 20, 2020.
- + University of Utah, Salt Lake City, UT, April 20, 2020.
- + University of Pennsylvania CLUNCH (Computational Linguistics Lunch) Group, January 25, 2021.

*Dungeons and Discourse: Using Computational Storytelling to Look at Natural Language Use.*

- + Georgia Institute of Technology NLP seminar, September 11, 2020.
- + Lawrence Livermore National Laboratory, Livermore, CA, June 11, 2020.

*Using Storytelling to Understand the Technological and Experiential Requirements of Interactive Improvisational Agents.*

- + GVV Brown Bag, Atlanta, GA, January 23, 2020.

*Using Storytelling to Understand the Technological and Experiential Requirements of Interactive Improvisational Agents.*

- + Tapia Doctoral Consortium, San Diego, CA, September 18, 2019.

**Winner of Best Doctoral Consortium Presentation Award.**

*A Model of Uncertainty in Language.*

- + REU Site Meeting, University of Pennsylvania, Philadelphia, PA, July 18, 2013.

### ORGANIZER

- + *3rd Workshop on Narrative Understanding*, at NAACL 2021, Online, June 11, 2021.
- + *Workshop on Narrative Understanding, Storylines, and Events (NUSE)*, Co-Located with ACL 2020, Online, July 9, 2020.

### LOCAL ARRANGEMENTS CHAIR

- + Fifteenth AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment (AIIDE), Georgia Institute of Technology, Atlanta, Georgia, October 8-12, 2019.

### DOCTORAL CONSORTIUM CHAIR

- + Seventeenth AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment (AIIDE), Online, October 11-15, 2021.

### PUBLICITY CO-CHAIR

- + Sixteenth AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment (AIIDE), Online, October 19-23, 2020.

### AREA CHAIR

- + Fourteenth International Conference on Natural Language Generation (INLG 2021), Aberdeen, UK, September 20-24, 2021.

## **ASSOCIATE PROGRAM CHAIR – TECHNOLOGIES TRACK**

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

## **ARTIFACT EVALUATION COMMITTEE MEMBER**

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

## **PROGRAM COMMITTEE MEMBER**

- + Seventeenth AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment (AIIDE), Online, October 11-15, 2021.
- + Third IEEE Conference on Games (CoG-21), IT University of Copenhagen (Virtual), August 17-20, 2021.
- + Twelfth Interactive Narrative Technologies (INT-20) Workshop at the AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment (AIIDE), Online, October 19-20, 2020.
- + Eleventh Procedural Content Generation (PCG-20) Workshop at the Foundations of Digital Games (FDG) Conference, Bugibba, Malta, September 14, 2020.
- + International Conference for Interactive Digital Storytelling (ICIDS), Little Cottonwood Canyon, UT, November 19-23, 2019.
- + Tenth Procedural Content Generation (PCG-19) Workshop at the Foundations of Digital Games (FDG) Conference, San Luis Obispo, California, August 26, 2019.
- + Second Workshop on Storytelling at ACL, Florence, Italy, August 1, 2019.
- + First Workshop on Narrative Understanding at NAACL, Minneapolis, MN, June 7, 2019.
- + Second Knowledge Extraction from Games (KEG-19) Workshop at AAAI, Hilton Hawaiian Village, Honolulu, Hawaii, January 27, 2019.
- + First Workshop on Storytelling at NAACL-HLT, New Orleans, LA, June 5, 2018.

## **JOURNAL REVIEWER**

- + Springer Nature - Autonomous Agents and Multi-Agent Systems, 2021.
- + ACM Computing Surveys (CSUR), 2020.
- + IEEE Transactions on Audio, Speech and Language Processing, 2020.

## **CONFERENCE ATTENDEE**

- + ACM Richard Tapia Celebration of Diversity in Computing, San Diego, CA, September 18-21, 2019.
- + CRA-Women Graduate Cohort Workshop, San Diego, CA, April 15-16, 2016.
- + Anita Borg Institute's Grace Hopper Celebration, Minneapolis, MN, October 2-5, 2013.
- + CRA STARS Alliance Celebration, Atlanta, GA, August 16-17, 2013.

## MENTORSHIP

Spring 2021-Present

### UNIVERSITY OF PENNSYLVANIA

Bryan Li

+ PhD Computer and Information Science

Spring 2021-Present

Anna Orosz

+ MSE Data Science

Fall 2020-Spring 2021

Sanjeevini Ganni

+ MSE Data Science

### GEORGIA INSTITUTE OF TECHNOLOGY

Spring 2020-Fall 2020

Siyan "Sylvia" Li

+ BS Computer Science → MS student at Stanford University

Spring 2020

Sruthi Sudhakar

+ BS Computer Science

Spring 2020

Kimberly Caras

+ MS Computer Science → D&A Modeler at KPMG Digital Lighthouse

Fall 2019-Fall 2020

Winston Li

+ BS Computer Science

Fall 2019

Andrew Silva

+ PhD Computer Science

Summer 2018-Sum. 2019

Srijan Sood

+ MS Computer Science → Research Engineer at JP Morgan

Spring 2019

Jainesh Doshi

+ MS Computer Science → Machine Learning Engineer at JP Morgan

Summer 2018-Spring 2019

Sonia Sargolzaei

Summer 2018-Fall 2018

Taha Merghani

+ MS Computer Science → AI & Deep Learning Engineer at Decooda

Spring 2018

Ethan Tien

+ BS Computer Science → CS MS student at Georgia Tech

Spring 2017-Spring 2018

Prithviraj Ammanabrolu

+ BS Computer Science → CS PhD student at Georgia Tech

Spring 2017-Spring 2018

Pradyumna Tambwekar

+ MS Computer Science → CS PhD student at Georgia Tech

Spring 2017-Spring 2018

Richa Arora

+ MS Computer Science → Google Analytics

Spring 2017-Spring 2018

Xinyu "Lily" Wang

+ MS Computer Science → MS Language Technologies student at Carnegie Mellon

Spring 2017-Fall 2017

Nathan Dass

+ BS Computer Science → MS student at Stanford University

Spring 2017

Murtaza Dhuliawala

+ MS Computer Science → Research Software Engineer at IBM Research

Fall 2016

Koustuv Saha

+ PhD Computer Science

Fall 2016

Yuval Pinter

- + PhD Computer Science

Spring 2016-Fall 2016

Shruti Singh

- + MS Computer Science → Software Development Engineer at Amazon

Spring 2016-Fall 2016

Will Hancock

- + MS Computer Science → PhD student at Northwestern University

## MEDIA COVERAGE

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### [Lara Martin on teaching AI to tell stories](#)

- + *BBC Science Focus Podcast*. Amy Barrett, Mar 15, 2021.

### [Alexa, tell me a story](#)

- + *BBC Science Focus Magazine, Dark Stars*. Amy Barrett, Feb 17, 2021.

### [Meet ML@GT: Lara J. Martin Trains AI Agents to Become Storytellers](#)

- + *Georgia Tech Machine Learning, Memos from ML@GT*. Apr 16, 2020.

### [Forget Chess—the Real Challenge Is Teaching AI to Play D&D](#)

- + *Wired*. Will Knight, Feb 28, 2020.

### [Changing the Conversation: Georgia Tech Researchers Provide New Approach to Automated Story Generation](#)

- + *Georgia Tech School of Interactive Computing*.  
David Mitchell, Feb 4, 2020.

### [Sztuczna inteligencja jako pisarz: Generowanie fabuły](#)

(Translation from Polish: Artificial Intelligence as a Writer: Story Generation)

- + *Zeszyty Maryny*. Patrycja Świeczkowska, Oct 4, 2019.

### [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.