Stephanie M. Lukin, Ph.D.

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PROFESSIONAL EXPERIENCE

12/2017 – Present   *Computer Scientist*
                    U.S. Army Research Laboratory, Los Angeles, CA
05/2017 – 12/2017   *Postdoctoral Fellow*
                    U.S. Army Research Laboratory, Los Angeles, CA

EDUCATION

2017   Ph.D. Computer Science, University of California, Santa Cruz
            Generating Variations in a Virtual Storyteller
2013   M.S. Computer Science, University of California, Santa Cruz
2011   B.S. Computer Science, Loyola University Maryland, Magna Cum Laude,

RESEARCH INTERESTS

- Natural language generation, dialogue systems, interactive storytelling
- Natural language processing, sentiment, emotion and sarcasm analysis

PUBLICATIONS

2020

- Bonial, Claire, Lucia Donatelli, Mitchell Abrams, Stephanie M. Lukin, Stephen Tratz, Matthew Marge, Ron Artstein, David Traum, and Clare Voss. Dialogue-AMR: Abstract Meaning Representation for Dialogue. *International Conference on Language Resources and Evaluation (LREC),* 2020.

2019

- Lukin, Stephanie M. and Marilyn Walker. A narrative sentence planner and structurer for domain independent, parameterizable storytelling. *Dialogue and Discourse* 10 (1), 2019.
- Bonial, Claire, Lucia Donatelli, Stephanie M. Lukin, Stephen Tratz, Ron Artstein, David Traum, and Clare Voss. Augmenting Abstract Meaning Representation for Human-Robot Dialogue. *Designing Meaning Representations Workshop (DMR),* 2019.
- Marge, Matthew, Stephen Nogar, Cory J Hayes, Stephanie M. Lukin, Jesse Bloecker, Eric Holder, and Clare Voss. A Research Platform for Multi-Robot Dialogue with Humans. North American *Association for Computational Linguistics Demo Paper (NAACL),* 2019.
- Bonial, Claire, David Traum, Traum Henry, Stephanie M Lukin, Matthew Marge, Ron Artstein, Kimberly A Pollard, Ashley Foots, Anthony L. Baker, and Clare R. Voss. Dialogue Structure Annotation Guidelines for Army Research Laboratory (ARL) Human-Robot Dialogue Corpus. *ARL Tech Report*, 2019.

2018

- Marge, Matthew, Claire Bonial, Stephanie M. Lukin, Cory J. Hayes, Ashley Foots, Ron Artstein, Cassidy Henry, Kimberly A. Pollard, Carla Gordon, Felix Gervits, Anton Leuski, Susan G. Hill, Clare R. Voss, and David Traum. Balancing Efficiency and Coverage in Human-Robot Dialogue Collection. *AI-HRI AAAI-FSS*, 2018.
- Lukin, Stephanie M., Kimberly A. Pollard, Claire Bonial, Matthew Marge, Cassidy Henry, Ron Artstein, David Traum, and Clare R. Voss. Consequences and Factors of Stylistic Differences in Human-Robot Dialogue. *SIGdial Meeting on Discourse and Dialogue (SIGDIAL),* 2018.
- Oraby, Shereen, Lena Reed, Shubhanghi Tandon, Sharath T.S., Stephanie Lukin, and Marilyn Walker. Controlling Personality-Based Stylistic Variation with Neural Natural Language Generators. *SIGdial Meeting on Discourse and Dialogue (SIGDIAL)*, 2018.

- Lukin, Stephanie M., Felix Gervits, Cory Hayes, Pooja Moolchandani, Anton Leuski, John Rogers, Carlos Sanchez Amaro, Matthew Marge, Clare Voss and David Traum. ScoutBot: A Dialogue System for Collaborative Navigation. *Association for Computational Linguistics Demo Paper (ACL),* 2018.
- Lukin, Stephanie M., Reginald Hobbs, Clare R. Voss. A Pipeline for Creative Visual Storytelling. *Storytelling Workshop (StoryNLP) at NAACL,* 2018
- Pollard, Kimberly A., Stephanie M. Lukin, Susan Hill, Ashley Foots, Matthew Marge. How We Talk with Robot: Eliciting Minimally-Constrained Speech to Build Natural Language Interfaces. *Human Factors and Ergonomics Society (HFES*), 2018.
- Bonial, Claire, Stephanie Lukin, Ashley Foots, Cassidy Henry, Matthew Marge, Kimberly Pollard, Ron Artstein, David Traum, and Clare R. Voss. Human-Robot Dialogue and Collaboration in Search and Navigation. *Annotation, Recognition and Evaluation of Actions (AREA) Workshop at LREC,* 2018.
- Traum, David, Cassidy Henry, Stephanie Lukin, Ron Artstein, Felix Gervits, Kimberly Pollard, Claire Bonial, Su Lei, Clare Voss, Matthew Marge, Cory Hayes and Susan Hill. Dialogue Structure Annotation for Multi-Floor Interaction. *International Conference on Language Resources and Evaluation (LREC),* 2018.

2017

- Bonial, Claire, Matthew Marge, Ron Artstein, Ashley Foots, Felix Gervits, Cory J. Hayes, Cassidy Henry, Susan G. Hill, Anton Leuski, Stephanie M. Lukin, Pooja Moolchandani, Kimberly A. Pollard, David Traum, Clare R. Voss. Laying Down the Yellow Brick Road: Development of a Wizard-of-Oz Interface for Collecting Human-Robot Dialogue. *Symposium on Natural Communication for Human-Robot Collaboration, AAAI Fall Symposium Series,* 2017.
- Bowden, Kevin, Shereen Oraby, Amita Misra, Jiaqu Wu, and Stephanie M. Lukin. Data-Driven Dialogue Systems for Social Agents. *International Workshop on Spoken Dialogue Systems position paper (IWSDS),* 2017.
- Lukin, Stephanie M., Pranav Anand, Marilyn Walker, Steve Whittaker. Argument Strength is in the Eye of the Beholder: Audience Effects in Persuasion. *European Chapter of the Association for Computational Linguistics (EACL),* 2017.

2016

- Lukin, Stephanie M., Kevin Bowden, Casey Barackman, and Marilyn A. Walker. A Corpus of Personal Narratives and Their Story Intention Graphs. *International Conference on Language Resources and Evaluation (LREC),* 2016.

2015

- Lukin, Stephanie M., Lena I. Reed, and Marilyn A. Walker. Generating Sentence Planning Variations for Story Telling. *SIGdial Meeting on Discourse and Dialogue (SIGDIAL),* 2015.
- Lukin, Stephanie M. and Marilyn A. Walker. Narrative Variations with a Virtual Storyteller. *Intelligent Virtual Agents (IVA),* 2015.

2014

- Lukin, Stephanie M., James O. Ryan, and Marilyn A. Walker. Automating Direct Speech Variations in Stories and Games. *Workshop on Games and NLP (GAMNLP),* 2014.
- Lukin, Stephanie M., Luke Eisenberg, Thomas Corcoran, and Marilyn A. Walker. Identifying Subjective and Figurative Language in Online Dialogue. *Pacific Northwest Regional NLP Workshop (NWNLP),* 2014.
- Lukin, Stephanie M., G.M. Youngblood, Honglu Du, and Marilyn A. Walker. Building Community & Commitment with a Virtual Coach in Mobile Wellness Programs. *Intelligent Virtual Agents (IVA),* 2014.
- Swanson, Reid, Stephanie Lukin, Luke Eisenberg, Thomas Corcoran, and Marilyn A. Walker. Getting Reliable Annotations for Sarcasm in Online Dialogues. *International Conference on Language Resources and Evaluation (LREC),* 2014.
- Justo, Raquel, Thomas Corcoran, Stephanie Lukin, Marilyn A. Walker, M. Ines Torres. Extracting Relevant Knowledge for the Detection of Sarcasm and Nastiness in the Social Web. *Knowledge-Based Systems (KBS),* 2014.

2013

- Lukin, Stephanie, and Marilyn Walker. Really? Well. Apparently Bootstrapping Improves the Performance of Sarcasm and Nastiness Classifiers for Online Dialogue. *Workshop on Language Analysis in Social Media (LASM) at NAACL,* 2013.

- Rishes, Elena, Stephanie M. Lukin, David K. Elson, and Marilyn A. Walker. Generating Different Story Tellings from Semantic Representations of Narrative. *International Conference on Interactive Digital Storytelling (ICIDS)*, 2013.

RESEARCH

2018 – present   Explainable Narratives: Visual Understanding and Question Answering
U.S. Army Research Laboratory, Los Angeles, CA

2017 – present   Human-Robot Interaction: Dialogue Systems and Autonomous Navigation
U.S. Army Research Laboratory, Los Angeles, CA

4/2013 – 03/2017   Dissertation: Generating Variations in a Virtual Storyteller
Graduate Student Researcher, UC Santa Cruz, CA
- Developed algorithms for mapping semantic to syntactic structures
- Built a content planner and sentence planner to employ narrative devices for changing focalizing agent and adding emotions in character speech
- Overgenerate and rank to evaluate engagement through personalization in stories and games

6/2016 – 9/2016   Dialogue Management
Software Engineering Intern, Google, New York, NY
- Created a domain independent dialog manager
- Collaborated with researchers to design a domain independent grammar
- Built a sustainable and reusable pipeline for scraping training data

6/2015 – 9/2015   Identifying Emotions in Online Conversations
Summer Research Intern, Microsoft Research, Redmond, WA
- Curated and computed statistics of a crowdsourced corpus of 12K conversations with sentiment and emotion annotations
- Manipulated recurrent neural network architecture to generate personalized responses

5/2012 – 5/2014   Master's Thesis: Natural Language Processing for Sarcasm Detection
Graduate Student Researcher, UC Santa Cruz, CA
- Built cue-based sarcasm classifier in socio-political debates
- Improved precision by 40% over baseline methods by learning sarcasm specific syntactic patterns combined with cue words

6/2013 – 9/2013   Virtual Conversational Agents for iPhone Health and Fitness App
Summer Research Intern, PARC, A Xerox Company, Palo Alto, CA
- Worked with the Fittle™ iOS wellness app team to build and pilot a fitness routine
- Implemented a virtual coach to encourages community and delivers personalized attention
- Increasing compliance and sense of community with virtual coach

1/2012 – 10/2012   Machine Learning on Factual and Emotional Political Arguments
Graduate Student Researcher, UC Santa Cruz, CA
- Built models to predict the degree of opinion change as a function of personality and argument type of dialogues in socio-political debates
- Observed opinion change was greater for people initially neutral about a topic than those who were entrenched
- Naïve Bayes and linear regression results from Weka (opinion change measured as binary and numeric) indicate the importance of personalized arguments adapted to people's personality

6/2009 – 5/2010   <u>Natural Language Processing for Identifying Malware in Source Code</u>
                    Hauber Science Research Fellowship, Loyola University MD, Baltimore, MD
- Created models for different authors of code based on author differences in naming and commenting conventions
- Correctly identified an unlabeled document from a collection of code written by distinct authors 90% of time using Kullbeck-Lieber divergence

PROGRAM COMMITTEES

2020	Co-Chair | [Games and Natural Language Processing](#) (GAMNLP'20) at LREC 2020
	Co-Chair | [Special Session on Situated Dialogue with Virtual Agents and Robots](#) (RoboDial'20) at SIGDIAL 2020
	Session Chair | Semantics and Pragmatics of Dialogue (SemDial'20)
	Reviewer | Association for Computational Linguistics (ACL'20)
	Reviewer | Human-Robot Interaction (HRI'20)
	Reviewer | Language Resources and Evaluation (LREC'20)
	Reviewer | International Conference on Interactive Digital Storytelling (ICIDS'20)
2019	Co-Chair | [Storytelling Workshop](#) (StoryNLP'19) at ACL 2019
	Co-Chair | [Games and Natural Language Processing](#) (GAMNLP'19) at FDG 2019
	Publication Co-Chair | North American Association Computational Linguistics (NAACL'19)
	Area Chair, Generation | Association for Computational Linguistics (ACL'19)
	Reviewer | North American Association for Computational Linguistics (NAACL'19)
	Reviewer | Conference on Autonomous Agents and Multiagent Systems (AAMAS'19)
	Reviewer | Conference on Robot Learning (CoRL'19)
2018	Co-Chair | Special Session on Physically Situated Dialogue (RoboDial'18) at SIGDIAL 2018
	Publication Co-Chair | North American Association Computational Linguistics (NAACL'18)
	Reviewer | Association for Computational Linguistics (ACL'18)
	Reviewer | North American Association for Computational Linguistics (NAACL'18)
	Reviewer | Storytelling Workshop at NAACL (StoryNLP'18)
	Reviewer | Student Research Workshop at NAACL (SRW'18)
	Reviewer | Joint workshop of Intelligent Narrative Technologies (INT'18) and Intelligent Cinematography and Editing (WICED'18)
2017	Reviewer | International Conference on Interactive Digital Storytelling (ICIDS'17)
	Reviewer | Workshop on Intelligent Narrative Technologies (INT'17)
	Reviewer | International Joint Conference on Natural Language Processing (IJCNLP'17)
2016	Reviewer | International Conference on Interactive Digital Storytelling (ICIDS'16)

INVITED TALKS

2020	Keynote Speaker | Where to next? Situated Dialogue with Robots for Search and Navigation." at Semantics and Pragmatics of Dialogue (SemDial'20)

HONORS AND AWARDS

2018	Top Reviewer, North American Chapter of the Association for Computational Linguistics
2018	Outstanding Reviewer, Association for Computational Linguistics
2015 – 2016	ARCS Foundation Scholar
2014 – 2015	Nuance Communications Fellowship
2014 – 2015	Baskin Family Fellowship, University of California Santa Cruz
2012	Regents Fellowship, University of California Santa Cruz
2011	James D. Rozics Computer Science Medal, Loyola University
2010 – 2011	Alice M. Lage Memorial Scholarship Recipient, Loyola University
2009	Hauber Summer Science Research Fellowship Recipient, Loyola University
2007 – 2011	Dean's List, Loyola University