

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

- Narrative intelligence, visual storytelling
- Multi-modal human-robot dialogue

PUBLICATIONS

2023

- Lukin, Stephanie M., Claire Bonial, Taylor Hudson, Kimberly A. Pollard, Ron Artstein, Clare Voss, and David Traum. [Navigating to Success in Multi-Modal Human-Robot Collaboration](#). *IEEE International Conference on Robot and Human Interactive Communication (RO-MAN)*, 2023.
- Lukin, Stephanie M., and Sungmin Eum. [Controllable Narrative Generation from Images](#). *AAAI Creative AI Across Modalities Workshop*, 2023.
- Lukin, Stephanie, Rahul Sharma, Michael Bellissimo. [Learning to Understand Anomalous Scenes from Human Interactions](#). January 2023, ARL-TR-9624.
- Halperin, Brett and Stephanie M. Lukin. [Envisioning Narrative Intelligence: Crafting a Creative Visual Storytelling Anthology](#). *CHI Human-Computer Interaction*, 2023.
- Summers-Stay, Doug, Clare R. Voss, Stephanie M. Lukin. [Improving the Creativity of Generative Language Models](#). *AAAI Creative AI Across Modalities Workshop*, 2023.
- Marge, Matthew, Claire Bonial, Stephanie Lukin, Clare Voss. [Bot Language \(Summary Technical Report, Oct 2016-Sep 2021\)](#). March 2023, ARL-STR-9656.

2022

- Bonial, Claire, Taylor A Hudson, Austin Blodgett, Stephanie M. Lukin, Jeffrey Micher, Douglas Summers-Stay, Peter Sutor, Clare R Voss. [You Can't Quarantine the Truth: Lessons Learned in Logical Fallacy Annotation of an Infodemic](#). *International Conference on Language Resources and Evaluation (LREC)*, 2022.
- Bonial, Claire, Taylor A Hudson, Austin Blodgett, Stephanie M. Lukin, Jeffrey Micher, Douglas Summers-Stay, Peter Sutor, Clare R Voss. [You Can't Quarantine the Truth: Lessons Learned in Logical Fallacy Annotation of an Infodemic](#). January 2022, ARL-TR-9343.
- Bonial, Claire, Taylor A Hudson, Anthony Baker, Stephanie M. Lukin, David Traum. [Making Sense of Stop. Annotation, Recognition and Evaluation of Actions \(AREA II\) Workshop at ESSLLI](#), 2022.

2021

- Lukin, Stephanie M., Clare R. Voss. [Extending Generation and Evaluation and Metrics \(GEM\) to Grounded Natural Language Generation \(NLG\) Systems and Evaluating their Descriptive Texts Derived from Image Sequences](#). ARL Technical Report, 2021.
- Bonial, Claire, Mitchell Abrams, Anthony Baker, Taylor A. Hudson, Stephanie Lukin, David Traum, Clare R. Voss. [Context Is Key: Annotating Situated Dialogue Relations in Multi-floor Dialogue](#). Workshop on the Semantics and Pragmatics of Dialogue (SemDial), 2021.

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.
- Sapkale, Aishwarya, and Stephanie M. Lukin. [Maintaining Consistency and Relevancy in Multi-Image Visual Storytelling](#). *ARL Tech Report*, 2020.
- Bonial, Claire, Stephanie M. Lukin, David C. Doughty, Steven C. Hill, and Clare R. Voss. [InfoForager: Leveraging Semantic Search with AMR for COVID-19 Research](#). *Designing Meaning Representations Workshop (DMR)*, 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 Fouts, 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 Fouts, 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 Fouts, 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 Fouts, 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 Fouts, 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.

INVITED TALKS

2020

Keynote Speaker | "How Many Different Ways Could You Tell a Story about a Sequence of Images? Procedural Expression for Narrative and Dialogue Generation and Visual Storytelling" at [The 16th AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment \(AIIDE'20\)](#)

2020

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

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 Natural Language Processing for Identifying Malware in Source Code
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 Kullback-Lieber divergence

PROGRAM COMMITTEES

2023	Reviewer Association for Computational Linguistics (ACL'23)
2022	OC Games and Natural Language Processing (Games and NLP'21) at LREC 2022 Area Chair International Conference on Computational Linguistics (COLING'22) Reviewer International Conference on Interactive Digital Storytelling (ICIDS'22) Reviewer ACL Rolling Review (ARR'22) Reviewer Special Interest Group on Dialogue (SIGDIAL'22) Reviewer Creative AI Across Modalities Reviewer Conference on Autonomous Agents and Multiagent Systems (AAMAS'22)
2021	Reviewer ACL Rolling Review (ARR'21)
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)

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

NEWS

Oct. 23, 2017	<u>Import AI: Issue #65 "Faking that the robots are already among us with the 'Wizard of Oz' human feedback technique"</u>
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