MELISSA ROEMMELE

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OBJECTIVE

I'm seeking career opportunities to develop innovative applications in artificial intelligence and natural language processing. I'm passionate about gaining insight through automated data analysis, with a specific interest in examining written text. I have significant experience developing code for natural language processing and machine learning pipelines, as well as excellent written and oral communication skills.

EDUCATION

PhD, Computer Science (2018)
University of Southern California, Los Angeles, CA

- Thesis: *Neural Networks for Narrative Continuation* (abstract) (full text)
- Advisor: Andrew Gordon
- Research areas: natural language processing, natural language generation, human-computer interaction, computational creativity, data science

MA, Computational Linguistics (2010)
Indiana University, Bloomington, IN

BA, Linguistics and Psychology, *Summa Cum Laude* (2009)
Miami University, Oxford, Ohio

EXPERIENCE

Research Assistant, Institute for Creative Technologies 8/2012 - 5/2018
University of Southern California, Los Angeles, CA

- In the Data-driven Interactive Narrative Engine project, I explored machine learning techniques for predicting "what happens next" in stories. In particular, I developed an application called Creative Help that provides automated assistance for story writing.
- Previously, in the Heider Simmel Interactive Theater project, I used machine learning techniques to model story-based interpretations of abstract visual animations.

Data Science Intern, Civis Analytics, Chicago, IL 6/2016 - 8/2016

- I examined techniques for visualizing and interpreting neural networks for text prediction tasks.

FileMaker Developer, DB Services, Indianapolis, IN 11/2011 - 7/2012

- I developed relational database applications using the software FileMaker.

Computational Linguist, Rivera Group, Sellersburg, IN 9/2010 - 4/2011

- I worked on a system for automatically detecting topics in internet weblogs.

PUBLICATIONS

Roemmele, M. and Gordon, A. (2018). Linguistic Features of Helpfulness in Automated Support for Creative Writing. Storytelling Workshop at the 16th Annual Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies (NAACL 2018).

Roemmele, M. and Gordon, A. (2018). An Encoder-decoder Approach to Predicting Causal Relations in Stories. Storytelling Workshop at the 16th Annual Conference

of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies (NAACL 2018).

Roemmele, M. and Gordon, A. (2018). Automated Assistance for Creative Writing with an RNN Language Model. Demo at the 2018 International Conference on Intelligent User Interfaces.

Roemmele, M. and Gordon, A. (2017). Lexical preferences in an automated story writing system. Workshop on Machine Learning for Creativity and Design, at the Thirty-First Annual Conference on Neural Information Processing Systems.

Cychosz, M., Gordon, A., Odimegwu, O., Connolly, O., Bellassai, J., **Roemmele, M.** (2017). Effective Scenario Designs for Free-text Interactive Fiction. 10th International Conference on Interactive Digital Storytelling.

J. Bellassai, A. Gordon, **M. Roemmele**, M. Cychosz, O. Odimegwu, and O. Connolly (2017). Unsupervised Text Classification for Natural Language Interactive Narratives. 10th International Workshop on Intelligent Narrative Technologies.

M. Roemmele, A. Gordon, and R. Swanson (2017). Evaluating Story Generation Systems Using Automated Linguistic Analyses. Workshop on Machine Learning for Creativity, at the 23rd SIGKDD Conference on Knowledge Discovery and Data Mining.

M. Roemmele, P. Mordo, and A. Gordon (2017). Natural-language Interactive Narratives in Imaginal Exposure Therapy for Obsessive-Compulsive Disorder. Computational Linguistics and Clinical Psychology Workshop, at the 2017 Annual Meeting of the Association for Computational Linguistics.

M. Roemmele, S. Kobayashi, N. Inoue and A. Gordon (2017). An RNN-based Binary Classifier for the Story Cloze Test. Linking Models of Lexical, Sentential and Discourse-level Semantics Workshop, at the 2017 European Chapter of the Association for Computational Linguistics.

M. Roemmele, S.M. Morgens, A. Gordon, and L.P. Morency (2016). Recognizing Human Actions in the Motion Trajectories of Shapes. 2016 International Conference on Intelligent User Interfaces.

M. Roemmele (2016). Writing Stories with Help from Recurrent Neural Networks. PhD Consortium at the 30th AAAI Conference on Artificial Intelligence.

M. Roemmele and A. Gordon (2015). Creative Help: A Story Writing Assistant. 8th International Conference on Interactive Digital Storytelling.

N. Maslan, **M. Roemmele**, and A. Gordon (2015). One Hundred Challenge Problems for Logical Formalizations of Commonsense Psychology. 12th Symposium on Logical Formalizations of Commonsense Reasoning.

N. Maslan, **M. Roemmele**, and A. Gordon (2015). An Integrated Evaluation of Perception, Interpretation, and Narration. Beyond the Turing Test Workshop, at the 29th AAAI Conference on Artificial Intelligence.

A. Gordon and **M. Roemmele** (2014). An Authoring Tool for Movies in the Style of Heider and Simmel. 7th International Conference on Interactive Digital Storytelling.

M. Roemmele, H. Archer-McClellan, and A. Gordon (2014). Triangle Charades: A Data-Collection Game for Recognizing Actions in Motion Trajectories. 2014 International Conference on Intelligent User Interfaces.

C. Wienberg, **M. Roemmele**, and A. Gordon (2013). Content-Based Similarity Measures of Weblog Authors. The 4th Annual ACM Web Science Conference.

A. Gordon, Z. Kozareva, and **M. Roemmele** (2012). SemEval-2012 Task 7: Choice of Plausible Alternatives: An Evaluation of Commonsense Causal Reasoning. 6th International Workshop on Semantic Evaluation.

M. Roemmele, C. A. Bejan, and A. Gordon (2011). Choice of Plausible Alternatives: An Evaluation of Commonsense Causal Reasoning. 10th Symposium on Logical Formalizations of Commonsense Reasoning.

TECHNICAL SKILLS

Python; statistical/machine learning libraries (Keras, Theano, Scikit-learn, TensorFlow); natural language processing libraries (spaCy, gensim, NLTK); database systems (SQL, FileMaker); bash/UNIX; web development (Javascript/HTML); desktop application development (Java); document markup languages (XML, LaTeX)

AWARDS/ SERVICE

Student mentor/presenter at the 2017 LingCon conference
2015 Grace Hopper Conference Scholar
Communications Chair for ICIDS 2016
On review committee for: NAACL 2018, ICIDS 2017 (demo track), EMNLP 2017 (demo track), 2017 EACL LSDSem Workshop, 2016 IJCAI DLAI Workshop, 2015 NAACL-HLT (demo track), 2012 NAACL-HLT SemEval Workshop