Mounica Maddela

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INTERESTS

Natural Language Processing, Machine Learning and Social Media.

EDUCATION

Georgia Institute of Technology, Atlanta, Georgia, USA 2020-present
Ph.D. in Computer Science

The Ohio State University (Transferred), Columbus, Ohio, USA 2017-2020
Ph.D. in Computer Science and Engineering
GPA - 3.94 / 4.00

University of Pennsylvania, Philadelphia, Pennsylvania, USA 2013-2015
Master of Science in Computer and Information Science
GPA - 3.64 / 4.00

International Institute of Information Technology, Hyderabad, India 2009-2013
Bachelor of Technology(Honors) in Computer Science and Engineering
GPA - 9.07 / 10.00

PUBLICATIONS

Neural CRF Model for Sentence Alignment in Text Simplification
Chao Jiang, **Mounica Maddela**, Wuwei Lan, Yang Zhong, Wei Xu
Proceedings of ACL 2020, long paper

Code and Named Entity Recognition in StackOverflow
Jeniya Tabassum, **Mounica Maddela**, Wei Xu, Alan Ritter
Proceedings of ACL 2020, long paper

Multi-task Pairwise Neural Ranking for Hashtag Segmentation
Mounica Maddela, Wei Xu and Daniel Preoţiuc-Pietro
Proceedings of ACL 2019, long paper

A Word-Complexity Lexicon and A Neural Readability Ranking Model for Lexical Simplification.
Mounica Maddela and Wei Xu
Proceedings of EMNLP 2018, long paper

RESEARCH EXPERIENCE

Graduate Research Assistant, OSU/GT 08/2017 - present
Advisor: Dr. Wei Xu

Text Simplification
Designed a new hybrid model for sentence simplification task. Our approach combines linguistically-motivated syntactic rules with a data-driven Transformer model to generate a simplified version of the input complex sentence. Our model outperformed the state-of-the-art system in terms of both automatic metrics (3.1 points difference in SARI, the main automatic metric for the task) and human evaluation.

Hashtag Segmentation
Developed a novel neural model to break a hashtag into its constituent words. Our approach addresses the diverse language style in social media and also adapts to the type of hashtag. Our model outperformed the state-of-the-art by 1.8 points in F1 and also improved the performance of the downstream sentiment analysis task by 2.4 points in F1.

Lexical Simplification
Designed a neural model to replace complex words in a sentence with simpler words. Our approach uses a combination of human judgments and linguistic features to estimate the readability of any given word or phrase.

Code and Named Entity Recognition
Developed a classifier that captures word spelling patterns to predict how likely the input word can be a code token without any sentential context. When combined with a BERT-based Named Entity Recognizer, the classifier has shown to improve the recognizer performance on StackOverflow posts by 2.7 points in F1.

Independent Study Project, UPENN 01/2014 - 05/2015
Advisor: Dr. Lyle Ungar
Captured the different sources and interpretations of well-being across various countries by analyzing the distribution of sentiment words.

Industry Experience

Software Development Engineer 06/2015 - 07/2017
Big Data Technologies, Amazon, Seattle
Improved data job monitoring experience in DataNet, one of Amazon's internal data management systems. Migrated the back-end legacy systems in DataNet from Oracle to Amazon Web Services.

Software Development Intern 06/2014 - 08/2014
Big Data Technologies, Amazon, Seattle
Developed natural language interface to help customers communicate with Grasshopper, a SQL query builder system.

Text Mining Intern 06/2013 - 08/2013
SetuServ, Hyderabad, India
Worked on text analytics tasks like sentiment analysis of tweets posted during a clinical conference and categorization of credit card transactions.

Awards

The Ohio State University PhD Fellowship for 2017-2018
Research Award for undergraduate students at IIIT-H for 2011-2012
Deans Academic Award List for all the 8 semesters (Fall 2009 - Spring 2013)

Skills

Programming Languages : Python, Java, MATLAB, C

NLP and Data Mining Tools : Fairseq, PyTorch, Stanford CoreNLP, Stanford Topic Modelling Toolbox, MALLET, Scikit, NLTK, MySQL

Talks

Multi-task Pairwise Neural Ranking for Hashtag Segmentation
AI Seminar, OSU, August 2019

A Word-Complexity Lexicon and A Neural Readability Ranking Model for Lexical Simplification
AI Seminar, OSU, October 2018
Clippers Meeting, OSU, November 2018
Midwest Speech and Language Days, May 2019

Lexical Simplification
Guest Speaker, CSE 3521, March 2019

Services

Reviewer for ACL 2020, AAAI 2020, NAACL 2019, EMNLP 2019, W-NUT 2019
Women in Engineering Graduate Council Member (OSU)
Co-founder of Graduate Women in Computer Science (OSU)

Affiliations

Association for Computational Linguistics (ACL)

Teaching

Graduate Teaching Assistant for Speech and Language Processing (OSU)
Graduate Teaching Assistant for Internet and Web Systems (UPENN)
Graduate Teaching Assistant for Computational Linguistics (UPENN)
Undergraduate Teaching Assistant for Introduction to Databases (IIIT)