Mounica Maddela

Contact Information

E-mail: maddela.4@osu.edu

Education

The Ohio State University, Columbus, Ohio USA (2017- present)

Ph.D. in Computer Science and Engineering (CGPA - 3.94 / 4.00

University of Pennsylvania, Philadelphia, Pennsylvania USA (2013- 2015)

Master of Science in Engineering in Computer and Information Science (CGPA - 3.64 / 4.00)

International Institute of Information Technology - Hyderabad, India (2009- 2013)

Bachelor of Technology(Honors) in Computer Science and Engineering (CGPA - 9.07 / 10.00)

Awards and Achievements

The Ohio State University 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)

Publications

A Word-Complexity Lexicon and A Neural Readability Ranking Model for Lexical Simplification
Mounica Maddela and Wei Xu
EMNLP 2018

Visualizing Nearest Neighbours for Large High Dimensional Datasets
Mounica Maddela and Kamalakar Karlapalem
IEEE Symposium on Large Scale Data Analytics and Visualization, poster.

Research Projects

Lexical Simplification using Neural Readability Ranker **Fall 2017 - Spring 2018**
Advisor: Dr. Wei Xu
Current lexical simplification approaches rely heavily on heuristics and corpus level features that do not always align with human judgment. We create a human-rated word-complexity lexicon of 15,000 English words and propose a novel neural readability ranking model with a Gaussian-based feature vectorization layer that utilizes these human ratings to measure the complexity of any given word or phrase. Our model performs better than the state-of-the-art systems for different lexical simplification tasks and evaluation datasets. Additionally, we also produce SimplePPDB++, a lexical resource of over 10 million simplifying paraphrase rules, by applying our model to the Paraphrase Database (PPDB).

Cross-Cultural Analysis using Twitter **Spring 2014 - Spring 2015**
Advisor: Dr. Lyle Ungar
Goal of the project was to capture the different sources and interpretations of well-being across various cultures or countries. The idea was to capture the context of sentiment words and analyze their distribution across countries. The project was a part of World Well Being Project (WWBP).

CROVHD (Honors Project) **Monsoon/Fall 2011 - Spring 2013**
Advisor: Dr. Kamalakar Karlapalem
Developed new visualization system called CROVHD (Concentric Rings of Visualization of High Dimensional Data) to visualize the high dimensional data as a 2-D representation. Extended this system to 3-D Cone visualization to visualize k-nearest neighbours.

Professional Experience

Software Development Engineer II at Big Data Technologies, Amazon **June 2015 - July 2017**
Designed system to improve bulk SQL job monitoring in DataNet, Amazon internal data management system, by visualizing SQL dependencies graph at any point of time. Refactored authorization process for DataNet which reduced the latency by 40%. Mentored an intern to develop faceted search for DataNet. Improved search service for DataNet.

Software Development Intern at Big Data Technologies, Amazon **June 2014 - August 2014**
Developed natural language interface to help customers communicate with Grasshopper, a SQL query builder system.

Application developer at Cancer Research Laboratory, UPENN **September 2013 - May 2014**
Developed web-based application using mySQL to monitor the orders and inventory of the laboratory.

Text Mining Intern at SetuServ **June 2013 - July 2013**
Captured insights from tweets posted during American Society of Clinical Oncology (ASCO) conference. Extracted the tweets discussing about cancer/drug/therapy and derived the topics discussed. Built a classifier using credit card transactions data to recognize the type of product based on product name, product description and web definition of the product.

Technical Skills

Programming Languages: Java, C++, C, MATLAB 2013a

Scripting and Other Languages: Python, JSP, PHP, Javascript, Bash/Shell scripting, HTML

Databases/Storage: MySQL, MongoDB, Berkeley DB, Amazon DynamoDB, Amazon S3

NLP and Data Mining Tools : Stanford CoreNLP, Stanford Topic Modelling Toolbox, MALLET, Scikit, NLTK, WEKA Version 3.7, MATLAB Statistics and Machine Learning Toolbox

Cloud Computing Services: Amazon EC2, Amazon CloudSearch, Amazon Simple Queue Service

Operating Systems: Unix/Linux, Windows, Mac OS X.

Teaching

Teaching Assistant for Internet and Web Systems (Spring 2015)

Teaching Assistant for Computational Linguistics (Fall 2014)

Teaching Assistant for Introduction to Databases (Monsoon 2012)