Krutarth Patel

kipatel@ksu.edu
(940) 999-4444

http://www.linkedin.com/in/krutarth-patel-50805b97

Education

Ph. D. candidate, Computer Science (4.0 GPA)	Kansas State University, Manhattan, KS	Aug 2017 - Present
M.S., Computer Science (4.0 GPA)	University of North Texas, Denton, TX	Dec 2017
B. Tech., Computer Engineering	Dharmsinh Desai University, Gujarat, India	May 2014

Interests & Skills

Interests : Deep Learning, Machine Learning, Information Retrieval, Data Mining, Artificial Intelligence
Programming : Python, Java, C++, C, Matlab
Frameworks and Tools : TensorFlow, Theano, Keras, scikit-learn, nltk, Weka, Word2Vec, WordNet, Mallet, SQL, Hadoop, PySpark, MongoDB, Neo4j

Work Experience

PhD Intern- Machine Learning   June 2019 – Aug 2019
- Design and develop machine learning algorithms for classification and analysis of the company's proprietary dataset of Public Notices containing unstructured text data.
- Design scrapers to scrape different websites containing public notices and store those notices into a PostgreSQL database.

Graduate Research Assistant   March 2015 – May 2019
PDFMEF: Multi-Entity Knowledge Extraction Framework for Scholarly Documents (https://github.com/SeerLabs/pdfmef)
- Integrated a module for the keyphrase extraction task.
- Added a module to use the pdffigures2 and fixed a bug to handle the xml output generated from GROBID tool.

Keyphrase extraction task (supervised approach)
- Formulated keyphrase extraction task as a sequence labeling using Conditional Random Fields (CRFs) and Bi-LSTM CRF.
- Trained word embeddings for using it as features along with other document specific features.

Homepage Classification task
- Designed deep learning based classifiers (CNN, RNN, and LSTM).
- Used this classifier in the researcher homepage discovery framework.

Identifying research articles from the collection of documents
- Implemented deep learning architectures, structural features, and co-training approach for identifying research articles.
- Used those classifiers in the search driven framework for collecting research articles.
- Also adapted those classifiers for collecting relevant documents from web archiving collections.

Software Engineering Intern, ISRO (Indian Space Research Org.), India   Dec 2013 - Apr 2014
- Modified the implementation of Layer-2 LAPDm of GSM stack for disaster management.

Projects

Web Search Engine   March 2016 - April 2016
- Created and deployed a Web spider, and integrated it with an IR system that implemented the vector-space model.
- Implemented additional user feedback to update relevancy algorithm.

Part of Speech Tagger for Tweeter Sentences   Nov 2016 - Dec 2016
- Used bigram and trigram Hidden Markov Model along with morphological rules.
- Used Viterbi algorithm for dynamic programming.

Eagle's Eye (Bus tracking android application for the UNT buses)   April 2017 - May 2017
- Buses currently running on the selected route will be highlighted on the screen with a live update of its location. The nearest bus stop will be shown to user. User can comment on the bus. Bus are colored red or green depending on bus is full or not.
- Implemented a server to retain comments and the live bus position.

Teaching Experience

Graduate Teaching Assistant, Kansas State University, USA   Aug 2019 - Present
- Subject: Deep Learning, Big Data

Graduate Teaching Assistant, Kansas State University, USA   Aug 2017 - Dec 2017
- Subject: Information Retrieval

Teaching Assistant, University of North Texas, USA   Jan 2017 - May 2017
- Conducted two labs for the course Computer Science I, which included basic C/C++ programming.

Guest Lectures
- Gave several lectures in graduate courses on Machine Learning and Information Retrieval (Prof.Cornelia Caragea)

Achievements & Awards

- Received the Dean Tuition Scholarship Summer 2015.
- Received the Toulouse Graduate School (TGS) Tuition Benefit Scholarship 2015-2017
- In my undergrad, I graduated 2nd ranked student in the Computer Engineering department and appeared among top 2% of all students in the entire Dharmsinh Desai University

Leadership & Activities

- Representing the Computer Science Department at UNT in the Graduate Study Expo (September 2015).
- Representing the Computer Science Department at UNT in the event for new international students (September 2015)
- Presented a research study on a navigation game for children at the Fort Worth Museum of Science and History (December 2015)
- Administered events committee at Felicific 2013 - The Cult & Tech Fest of the DDU, Dharmsinh Desai University
- Food committee member in the BAPS Swaminarayan Chhatralaya/hostel (2010-2013)

Publications

- Sujatha Das Gollapalli, Krutarth Patel, and Cornelia Caragea. "A Search/Crawl Framework for Automatically Acquiring Scientific Documents" CoRR, 2016.
- Krutarth Patel, and Cornelia Caragea. "Exploring Word Embeddings in CRF-based Keyphrase Extraction from Research Papers" K-CAP, 2019.
- Krutarth Patel Cornelia Caragea, and Mark E. Phillips. "Dynamic Classification in Web Archiving Collections" Under submission review by IAAI, 2020.
- Krutarth Patel, Cornelia Caragea, Sujatha Das Gollapalli, and C Lee Giles. "On the Use of Web Search to Improve Scientific Collections" Will be submitted to ECIR, 2020
- Krutarth Patel, Mark E. Phillips, Cornelia Caragea, and Nathaniel T. Fox. "Using Competency Algorithm to Find Relevant Documents from Web Archives" Will be submitted to WWW, 2020.
- Krutarth Patel, Cornelia Caragea, and Doina Caragea. "Search Driven Author Homepage Discovery using deep learning architecture" Will be submitted to WWW, 2020.
- Krutarth Patel, Cornelia Caragea, and Jian Wu. "Structural Features for Identifying Research Articles" Will be submitted to IJDL, 2020.
- Cornelia Caragea, Krutarth Patel, and Jian Wu. "Keyphrase Extraction in Scholarly Digital Libraries" Will be submitted to WWW, 2020.