Akshay Satish

West Lafayette, IN
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Education

Purdue University August 2021 – Present
Masters in Computer Science *West Lafayette, IN*

Nitte Meenakshi Institute of Technology August 2016 – May 2020
Bachelors in Technology, Computer Science *Bangalore, India*

Project & Research Experience

Predicting Earthquake Trends Jan, 2022 – April, 2022
Purdue University

- Extracted and Analyzed geospatial data of 18000+ earthquakes to prepare for prediction model
- Implemented DBSCAN to perform spatial clustering based on the intensity of earthquakes
- Predicted earthquake magnitude trends using LSTM model and visualized the results as a heatmap communicating high-risk regions based on depth and magnitude

Survey of Document Databases Jan, 2022 – April, 2022
Purdue University

- Surveyed NoSQL document database modeling, storage, operations, indexing, and sharding techniques
- Inspected data structures used to design storage engines and indexes in disk and in-memory databases
- Communicated detailed diagnosis of JSON-based encoding in databases, advantages, and disadvantages

Graph-based keyword extraction Mar, 2020 – May, 2020

- Built NLP tool to extract relevant keywords and keyphrases from text data via LSTMs in PyTorch
- Applied k-core truss decomposition to build a word graph and extract related keywords
- Decreased error by 8% as compared to supervised and TF-IDF methods
- Collaborated and co-authored a conference paper on graph-based keyword extraction for twitter data

Sentiment Analysis of Tweets Mar, 2020 – May, 2020

- Extracted and organized 1000+ tweets relevant to a topic by mining tweets based on a search query
- Constructed tokenized word embeddings and attention mappings to improve language tasks
- Built NLP tool using the BERT model to summarize tweets improving by 15% over Word2Vec
- Implemented sentiment analysis to classify positive, negative, and neutral tweets

Specialized Skills

Machine and Deep Learning: Pandas, Scikit-learn, Seaborn, PyTorch, Keras, Tensorflow, LSTMs
Programming: Python, SQL, R, C++, Julia, Latex
Databases: SQL, MySQL, BigQuery, NoSQL

Research Presentations

Vijaya Shetty S., Akshay S., Shritej Reddy B.S., Rakesh H., Mihir M., Shetty J. (2022) Graph-Based Keyword Extraction for Twitter Data. In: Shetty N.R., Patnaik L.M., Nagaraj H.C., Hamsavath P.N., Nalini N. (eds) Emerging Research in Computing, Information, Communication and Applications. Lecture Notes in Electrical Engineering, vol 790. Springer, Singapore. https://doi.org/10.1007/978-981-16-1342-5_68