Deepak Kumar

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Summary

3+ Years experience in Analytics/Statistics, Machine Learning, Computer Vision, Deep Learning, Natural Language Processing, Data Visualization, Data Mining, and Data Analysis.

Education

University of Massachusetts, Dartmouth *Dartmouth, MA*
PH.D. IN ENGINEERING AND APPLIED SCIENCES(COMPUTER AND INFORMATION SCIENCES) *2018 - PRESENT*

University of Massachusetts, Dartmouth *Dartmouth, MA*
M.S. IN DATA SCIENCE (GPA: 3.85/4.00) *2016 - 2018*
- Thesis: Cross-View Action Recognition via Joint Dictionary and Transfer Learning
- Advisor: Dr. Ming Shao

Shaheed Zulifkar Ali Bhutto Institute of Science and Technology *Karachi, Pakistan*
B.S. IN COMPUTER SCIENCE (GPA: 2.92/4.00) *2009 - 2013*

Experience

University of Massachusetts, Dartmouth *Dartmouth, MA*
RESEARCH ASSISTANT *Sep. 2016 - Present*
- Cross Database Mammographic Image Analysis through Unsupervised Domain Adaptation.
- Cross-View Action Recognition via Joint Dictionary & Transfer Learning

Center for Data Sciences-EDUENRICH *Karachi, Pakistan*
DATA ANALYST *Dec. 2013 - Dec. 2015*
- Responsible for design and development of Relational Databases for collecting data, processing data, and maintaining integrity during data extraction.
- Analyzed the data, conducted statistical analysis using R, and developed recommendations based on the analysis

Skills

Languages	Python, R, Matlab, C/C++, JavaScript, D3, LaTeX
Libraries	Tensorflow, Keras, Caffe, NumPy, Pandas, NLTK, MPI, OpenMP
Data Tools	Tableau, Rapid Miner
Machine Learning	Classification, Regression, Feature Engineering

Research & Publications

Conferences:

- **D. Kumar**, C. Kumar and M. Shao, "Cross-database mammographic image analysis through unsupervised domain adaptation," 2017 IEEE International Conference on Big Data (Big Data), Boston, MA, USA, 2017

Academic Projects

Visual Human Action Recognition through Dense Trajectories (Master's Project): Features from Videos are extracted using Dense Trajectories method, the performance is evaluated using the bag-of-features approach, and non-linear SVM with different kernels used for classification.

USA 2016 Election Visualization Data Visualization of USA 2016 Presidential Election Primary results using D3 to show trends over candidate campaigning and the counties they won.

Twitter Sentiment Analysis A Web app was created to perform sentiment analysis of particular hashtag in particular area. All tweets were processing using Natural Language Processing (NLP) and machine learning processing and visualized the processed tweets using D3.

Computational Reproducibility Reproduced a paper "Deep Compositional Captioning: Describing Novel Object Categories without paired Training Data" using python and caffe. Drawn the relationship between original results and reproduced results. The paper didn't completely reproduced, but some part of the paper was reproduced.

Text Processing and Mining Configured Jupyter Notebook on Stampede (Super Computer) to access it on local machine to perform text processing and text mining on unstructured data using Python NLTK Library.

Presentation

New England Computer Vision Workshop 2017   *Boston, MA*

Topic: Cross-database Mammographic Image Analysis through Unsupervised Domain Adaptation   *Nov. 2017*

Professional Services

2019   **Reviewer**, Association for Advancement of Artificial Intelligence (AAAI)

2018   **Reviewer**, Journal of Electronic Imaging (JEI)

2018   **Reviewer**, Association for Advancement of Artificial Intelligence (AAAI)

2018   **Reviewer**, International Joint Conferences on Artificial Intelligence (IJCAI)