Deepak Kumar

337-781-1568 | https://www.linkedin.com/in/deepak-kumar-12977843 | dkumar2@umassd.edu

INTERESTS

Deep Learning, Computer Vision, Transfer Learning, Data Visualization

EDUCATION

M.S in Data Science August, 2018
University of Massachusetts, Dartmouth 3.85/4.00
B.S in Computer Science, June, 2013
Shaheed Zulifkar Ali Bhutto Institute of Science and Technology, Karachi 2.92/4.00

WORK EXPERIENCE

University of Massachusetts, Dartmouth – Research Assistant September, 2016 – Present

- Multi View Action Recognition using the features extracted from Dense Trajectories and Using two stream model to get deep learned features and match the interest points using the Bipartite Graphs in multiple views

Center for Data Science –EduEnrich -Data Analyst December, 2013- December, 2015

- Responsible for Design/Development of Relational Databases for collecting data,
- Processing Data, and maintain integrity during extraction, manipulation,
- Analyzing the Data, conducting statistical analysis using R, and Developing Recommendations

Pakistan Telecommunication Limited -Internee- Pakistan Internet Exchange June 2012 – August 2012

- Responsible for Design and Development of Web Portal with Database to transfer their Spread Sheet Data over databases for their internal use

SKILLS

- **Programming Languages:** Python, R, Matlab, HTML/CSS/JS, C(Parallel Programming) , C++
- **Data Tools:** Tableau, scikit-Learn, Mataplotlib, Numpy, Pandas, NLTK, D3, RapidMiner
- **Machine Learning Packages:** Keras, Tensor Flow, LibSVM

Certificate Courses

Certificate of Accomplishment

- **Coursera | Jhon Hopkins University, USA :** The Data Scientist's Toolbox ,The R Programming , Data cleaning and Exploring
  - **University of Nicosia, Cyprus :**Introduction to Digital Currencies
- **Center for Excellence in Journalism | Institute of Business Administration, Pakistan**
  - **dBootCamp Karachi (Data Bootcamp for Journalists)**

Research Experience

- **Conference Papers**
  - Deepak Kumar, Chetan Kumar, Ming Shao, Cross-Database Mammographic Image Analysis through Unsupervised domain adaption, 2nd International Workshop on Big Data Transfer Learning in Conjunction with IEEE Big Data Conference, 2017.
- **Workshop Presentation**
  - Oral Presentation on Cross-Database Mammographic Image Analysis through Unsupervised domain adaption in **2017 New England Computer vision workshop** held at Northeastern University, Boston
- Work in Progress
  - **Action Recognition in Multi view Dataset (Master's Thesis – In Progress):** Features extracted from Dense Trajectories and using two stream model to get deep learned features which will match the interest points using the Bipartite Graphs in different views.

Professional Services

- **Conference (External) Reviewer**
  - Association for Advancement of Artificial Intelligence (AAAI) 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.

Data Warehousing and Business Intelligence: Compare the query execution time using the Materialized views and cubes**,** TPC-H queries are used materialized views and cubes are created, and convert to TPC –H queries to MDX queries to access the cubes Data.

Data Mining and Business Analytics: Worked on smart watches sensor data set, to explore data using different visualization, find out the Data uniqueness, Outliers and classify and build the model and predicate the new data set using the trained data model.

Data Visualization: Worked on US Election 2016 Data set. Visualization of Each Candidate Campaigning Expenses, Number of visits they made to each state, and No of counties they won, what other demographic factors affect their results. **URL:** https://bl.ocks.org/dkrathi457/raw/91e3cf725d6c7fb0a9a9898243105b19/index.html

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.

Visual Analytics – Twitter Sentiment Analysis: Created a web App, on the frontend user draws a circle on map to select the area on map, with the text box to write a hashtag, on the backend all tweets are processed using the Natural Language processing library and Machine Learning Techniques. All backend processing is done using the Scala, Sql and Java. And the analyzed data is visualized using the D3.

Text Processing and Text Mining: Jupyter Notebook was configured on Stampede (Super Computer) to access it on local machine for performing the text processing and text mining on unstructured data using the Python NLTK library

URL: https://github.com/dkrathi457/DSC-520-HPC/blob/master/final-DSC520.ipynb