CHETAN KUMAR

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RESEARCH INTEREST

Data Analysis and Visualization, Machine Learning, Deep Learning, Transfer Learning

EDUCATION

University of Massachusetts, Dartmouth   **Sep 2018 - Present**
PhD in Engineering & Applied Science (Computer Science and Information Systems) (GPA: 3.8/4.00)

University of Massachusetts, Dartmouth   **Sep 2016 - Aug 2018**
MS in Data Science (GPA: 3.81/4.00)

Shaheed Zulfikar Ali Bhutto Institute of Science and Technology, Karachi   **Sep 2010 - Jun 2014**
BS in Computer Science (GPA: 3.26/4.00)

WORK EXPERIENCE

University of Massachusetts, Dartmouth   **Sep 2018 - Present**
Research Assistant (Advisor: Dr. Ming Shao)
- Pursuing research on cross-view action recognition and kinship verification under supervision of Dr. Ming Shao

University of Massachusetts, Dartmouth   **Oct 2017 - May 2018**
Data Analyst
- Carried out statistical analysis on Nursing School admissions and course enrollment & results data and used JavaScript and D3.js to visualize different patterns and trends for students' performance against the courses
- These results effectively helped the school to maintain and redesign their curriculum to get most success rate
- First time a machine learning model using R language is built for this Nursing School to predict successfulness for each candidate appearing in the upcoming NCLEX-RN (Nursing License Exam) and achieved a significant performance higher than 94%

Web Enthusiasts, Karachi   **Jun 2014 - Oct 2015**
Software and Web Developer
- Developed and maintained static and dynamic websites for corporate clients with responsive interfaces
- Optimized content for fast and interactive user experience with server interaction through PHP and MySQL

TECHNICAL SKILLS

Languages	Python, D3.js, JavaScript, R, Matlab, SQL, C/C++
Libraries	Numpy, Pandas, Sckiti-Learn
Data Tools	Tableau, Rapid Miner
Machine Learning	CNN, Classification, Regression, Feature Engineering, Transfer Learning
Tools	LaTeX, Jupyter Notebook, RStudio

PUBLICATION

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, 2017

POSTER PRESENTATION

- Cross-database Mammographic Image Analysis through Unsupervised Domain Adaptation, 2017 New England Computer Vision Workshop, Boston, MA   **Nov 2017**
- Cross-view Action Recognition via Joint Dictionary & Transfer Learning, 2018 New England Computer Vision Workshop, Boston, MA   **Nov 2018**

ACADEMIC PROJECTS

- **Skeleton Based Action Recognition using Convolutional Neural Network (MS Project):** A skeleton based live

working model for action recognition was developed to explore the biasness present between synthetic and non-synthetic datasets. Kinect V2 is used to get Skelton representation of 2 persons interactions. http://tiny.cc/uq370y

- **H-1B Visa Petitions Data Analysis:** Visualized and analyzed Kaggle data using R and D3.js to determine important trends and facts such as total visa petitions, total candidates in different job categories from each state. Webpage: http://tiny.cc/7p370y

- **Computational Reproducibility:** Reproduced Paper **"Real Time Robust L1 Tracker Using Accelerated Proximal Gradient Approach"** using Matlab and reproduced related Papers for Comparing Experimental Results.

- **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 by using Python NLTK library.

PROFESSIONAL SERVICES

- **Reviewer,** Association for Advancement of Artificial Intelligence (AAAI)   **2018 & 2019**
- **Reviewer,** Journal of Electronic Imaging (JEI)   **2018 & 2019**
- **Reviewer,** International Joint Conference on Artificial Intelligence (IJCAI)   **2018**