Dheeraj Singh

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INTERESTS

Machine Learning, Computer Vision, Natural Language Processing, Data Mining, Predictive Analytics

EDUCATION

Master of Science, Data Science 2017 - 2019 (Expected)
Indiana University, Bloomington, IN
Current Coursework: Elements of Artificial Intelligence, Applied Algorithm, Introduction to Statistics

Bachelor of Technology (Honours) Chemical Engineering, 7.06/10.00 2009 - 2013
Indian Institute of Technology, Kharagpur, India

EXPERIENCE

Senior Project Associate April 2016 - May 2017
Indian Institute of Technology, Kanpur, India

Vehicle Recognition System *Guided by: Prof. Gaurav Pandey (EE)*

- Developed a software system to identify license plate using template matching framework in Python
- Employed OpenCV library for image processing: Morphological transformations, Gaussian filtering, Adaptive histogram equalization, Contour formation, Character segmentation
- Formulated rules to build an OCR for characters identification and differentiation based on the pixel arrangement
- Enhanced character matching with pre-defined templates by performing threshold scaling for image binarization
- Improved recognition success rate by 7% as compared to the existing one(83% vs. 76% ; Sample space = 1000)

Data Visualization Application *Guided by: Prof. Arnab Bhattacharya (CS)*

- Developed a web-based user interactive application in PHP for real-time management and visualization of data stored in MySQL database; Implemented device responsiveness and interoperability using the Bootstrap framework
- Defined the complete database schema, configured, and deployed the same using phpMyAdmin
- Integrated Google chart API to visualize data variability in terms of distribution, trend, correlation, deviation, ratio

Senior Business Analyst May 2015 - February 2016
Tinyowl Technologies, Mumbai, India *Food-tech start-up*

- Built a logistic regression model to predict the probability of users from different clusters returning back to the platform for targeted & channelized marketing using a *glm* package in R
- Developed an algorithm to identify top performing restaurants within each locality using scoring algorithm incorporating Gini coefficients and centroid method for weightage allocation
- Built internal dashboard to track pre-defined business metrics and trends using *shiny* package in R
- Performed k-means clustering to segment user-base based on attributes like spending behaviour, ordering pattern

Business Analyst January 2015 - April 2015
Embibe (Indiavidual Learning), Mumbai, India *Education-tech start-up*

- Tracked and analyzed day-to-day performance of metrics to gauge user traction, marketing impacts, user engagement, and product performance for making better business decisions
- Performed cohort analysis to quantify user behaviour. Resulting inferences were used in targeted customer acquisition resulting in 23% increase in revenue within a span of 2 months

Analyst June 2013 - December 2014
Ipsos Research, Bangalore, India *Market Research firm*

- Performed Market Mix Modeling & Pricing Analysis for client specific marketing strategies in a variety of domains like retail, consumer packaged goods, pharmaceuticals, and restaurant chains
- Quantified return on investments (ROI) from marketing expenditure by Regression modeling via tactics, brands, and geographies; traditional tactics (TV, Print, Display); non-traditional tactics (Paid Search, Emails, Social Media Ads)
- Awarded Spot performer of Q3-2014 for enthused performance in analytics division

PERSONAL PROJECTS (More details are available on homepage)

- *Movie Recommendation System*: Used Collaborative filtering to recommend movies to similar users
- *Sentiment Analysis Tool*: Employed bag-of-words and rule-based approach to classify tweets into positive & negative
- *Speaker Recognition System*: Used K-means; MFCC & delta coefficients as features vector to recognize speaker
- *Kaggle Competitions*: Built prediction and classification models using Decision Trees, Random Forest, SVM, Xgboost
- *LinkenIn Job Scrapper*: Built a scraping tool to find LinkedIN jobs using BeautifulSoup module in Python

COMPUTING SKILLS

Python, R, C, Shell Scripting, MySQL, PostgreSQL, SQLite, MongoDB, NumPy, Pandas, Scikit-Learn, Matplotlib, OpenCV, MATLAB, LaTeX, Git, Vim, PHP, HTML, CSS, Javascript, Bootstrap, Mac OS X, Linux, Windows