Dheeraj Singh

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EDUCATION

School of Informatics, Computing, and Engineering, Indiana University, Bloomington, IN

Master of Science, Data Science   May 2019

Current Coursework: Elements of Artificial Intelligence, Applied Algorithm, Introduction to Statistics

Indian Institute of Technology (IIT), Kharagpur, India

Bachelor of Technology (Honours), Engineering   May 2013

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

RESEARCH 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

PROFESSIONAL EXPERIENCE

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
- 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
- Quantified return on investments (ROI) from marketing expenditure by Regression modeling
- Awarded Spot performer of Q3-2014 for enthused performance in analytics division

SELECTED 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
- *Kaggle Competitions*: Built prediction and classification models using Decision Trees, Random Forest, SVM, Xgboost
- *Speaker Recognition System*: Used K-means; MFCC & delta coefficients as features vector to recognize speaker