Aishwarya Patil

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EDUCATION

Santa Clara University — **GPA: 3.3** — **Santa Clara, CA, USA**
MS in Computer Science & Engineering — **Sept '16 – Jun '18**
Coursework: Pattern Recognition and Data Mining, Design and Analysis of Algorithms, Distributed Systems, Mobile Application Development, Artificial Intelligence, Advanced Web Programming

Vishwakarma Institute of Technology — **GPA: 3.73** — **Pune, India**
B.Tech. Computer Engineering and Honors in Computer Networks — **Jul '12 – May '16**
Coursework: Operating Systems, Data Structures, Embedded Systems, Programming Languages, Business Analytics, Database Management Systems

Udacity DataAnalyst Nanodegree
Coursework: Statistics, Analysis using Python(NumPy and Pandas), Machine Learning, Data wrangling using SQL/ MongoDb, Data Visualization using d3.js

EXPERIENCE

Machine Learning Research Assistant — Santa Clara University
Under Prof. Manoochehr Ghiassi
Currently working on image recognition using dynamic neural network.(DAN2)

SKILLS

Programming Languages : Python , R , Java, SQL, C , C++ , Matlab, Unix(Shell,Awk),C#, Ruby on Rails, Javascript, HTML, CSS, JSP ,REST API
Development Environment: Anaconda, Rstudio, Android Studio, Git, Eclipse
Databases: MySQL, MongoDB , Oracle,NoSQL
Other : Hadoop , Statistics, Tableau, Excel, Communication

PROJECTS

Distributed Messaging Application Distributed Systems (Java, Socket Programming) — Mar '17

- Designed messaging application having multiple clients and a server
- Implemented the application using JAVA RMI.
- Developed the application using the concepts of distributed system such as consistency protocol, replication and concurrency
- Designed the GUI using **Java swing**

SchoolFinder Application Mobile Application (Xamarin-iOS&Android, SQL, C#) — Mar '17

- Designed a school finder application which helped users to find appropriate school according to their preferences
- Implemented search algorithm wherein users could find school based on programs, degrees, size , name, type of organization using **Microsoft Azure** for backend database.
- Displayed detailed information of each school average annual cost, graduation rate, financial aid, salary after graduation

OpenStreet Map Data analysis (Python, **SQL**, XML files) — Feb'17

- Analysed the open street map data of Mumbai(India)
- Converted the Xml data into csv and imported into SQL database
- Performed data cleaning and auditing to remove inconsistencies in the XML file
- Explored the data and triggered queries to find relevant information from the data for example number of ways, number of unique users, number of restaurants and their cuisines, places of worship

Movie Recommender System (Python, Hadoop, AWS) — Jan'17

- Devised a MapReduce algorithm to suggest users movies based on ratings of movies watched by user in past. Extracted the ratings of the other users who had watched similar movies and mapped them
- Performed the search on a dataset of 1 Million user rating of movies with the help AWS Elastic MapReduce on 16 virtual machines

Detection of fraud in Enron Scandal Machine Learning (Python, NumPy, Pandas, scikit-learn libraries) — Dec'17

- Automated the detection of person of interest in Enron Scandal (Oct 2001) using **Decision Tree Classifier** (Supervised Learning).
- Data consisted of financial information and emails transferred between insiders of Enron Company.
- Performed exploratory data analysis to remove outliers, scaled the features using **MinMaxScaler**, used **SelectKBest** for feature selection. Tuned the parameters using **GridSearchCv**.
- Trained the model using various classifier such as **KNearestNeighor, Support Vector Machines, Logistic regression, AdaBoost,** found **Decision Tree Classifier** to be the best

Detection of Diabetic Retinopathy Deep Learning (Python, NumPy, Pandas, scikit-learn libraries)

- Automated the detection of diabetic retinopathy using **Convolutional neural network** (CNN) in **Keras**.(Tensorflow) — Dec '17
- Implemented **KNearestNeighbor** and **Support Vector Machine** as the baseline model. Performed **principal component analysis** for dimensionality reduction before running the classifier on the training data.
- Trained the model using dataset consisting of 35,000 images of people's retina taken from various sources and labelled according to increasing order of level of severity(0-4).

Analysis of Titanic Data (Python, NumPy and Pandas) — Nov'16

- Analyzed the survival of people on Titanic on the basis of Age , Class , Sex ,Fare , Port etc using Python libraries, NumPy and Pandas.
- Performed data wrangling on the dataset to handle inconsistencies in the data. Visualized the survival rate using **Seaborn plots**
- Gave insights about who had better chances of surviving based on the various attributes mentioned above.

Stroop Hypothesis Statistics — Oct '16

- Studied the Stroop effect and stated the null and alternative hypothesis
- Performed one tailed dependent t test using mean and standard deviation for two condition and concluded to reject the null hypothesis on basis of P value

Exploratory Data Analysis On Census data R programming, ggplot2 — Oct'16

- Analysed the census data from 90's of 32000 people .Performed data wrangling to overcome the inconsistencies in the data.
- Visualised the income distribution based on categorical and nominal variables using multivariate ggplot2 in R.

Grocery Product Application **Android Application** (Java, Spring framework, hibernate**)** — May '16

- Designed and developed application for grocery products in regional language Marathi.
- Compared and analyzed the price of the product from nearby shopping centers and displayed the best price of the product and location of the respective shopping centers using Google Maps.