HARSH MAHESHWARI

Aspiring Data Scientist & Proud Geek

91-8275830507 | Mumbai, India | Homepage | Harsh-Maheshwari | Harsh-Maheshwari
harshmaheshwari3110@gmail.com

EXPERIENCE

Data Analyst — December 2018

PV-Diagnostics — Mumbai, India

- Designed an **SQLite Database** for various projects with multiple parameters having large number of solar I-V, power data-points. Populated the data and performed **Data Sorting, Cleaning and Summary creation using Python**
- Developed new parameters of physical significance to a solar plant based on the translation equation, derived new insights from the data and detected outliers through **exploratory data analysis**
- Built a **Logistic Regression Model** to classify different types of defects in solar panels based on new parameters derived from the translation equations, **Accuracy of 85%**

KEY PROJECTS

Chemical Unit Operations — January 2019 – June 2019

Guide- Prof. Ivan Hundebøl — DTU, Denmark

- **Liquid Liquid Extraction** : Found the efficiency of the mixer settler in 4 conditions based on 2 kinds of emulsion and 2 rotational speeds of the stirrer. Analysed the mass balance and mass transfer coefficients in all 4 conditions. Compared funnel test results with those from mixer settler.
- **Gas Flow in Pipes** : Investigated fan properties like Characteristic curve, power consumption and efficiency.Verified Bernoullis equation, measured gas flow rate using the venturi, the orifice and the Pitot tube. Determined the gas velocity profile for laminar and turbulent flow
- **Batch Distillation** : Separate of water and ethanol done with constant reflux ratio. Heat analysis done on the system, Rayleigh's modified equation and simplified relative volatility procedure used for mass balance.
- **Filtration in a filterpress** :Performed filtration of solid $Mg_3(PO_4)_2$ particles through a horizontal plate and frame filter press, produced after reacting $MgSO_4$ and Na_3PO_4 in an aqueous suspension.

Hate Speech Detection — Oct 2018 – Nov 2018

Guide- Prof. Sunita Sarawagi — IIT Mumbai , India

- A Twitter tweets data-set with 3 labels as 'Hate Speech' , 'Offensive Language' or 'Neither' was used for training a deep learning model
- The data-set was thoroughly cleaned and deep analysis was done on what kinds of words are used in each class and with what frequency. This analysis was represented pictorially as a **word Cloud**.
- Glove pre-trained **Word Embedding** was modified for the given data-set and mapped for each word in the text vocabulary
- A 8 layer deep feed forward network was used to train and training accuracy of **84.30%** and testing accuracy of **82.30%** was achieved in 30 epochs

Image Classification — Aug 2018 – Oct 2018

Guide- Prof. P.Balamurugan — IIT Mumbai , India

- Studied the working of Feed-forward back-propagation neural network i.e. a multi-layer perceptron and the architectures of Convolution Neural Networks and their applications.
- Deployed different network architectures like **DenseNet, Dual Path, GoogleNet, MobileNet, ShuffleNet, ResNet, ResNext, SENet** on CIFAR10 dataset using PyTorch.
- Deployed Feed Forward Networks with 7 and 5 layer depths on MNIST database of handwritten digits and Achieved Best Accuracy of **98.4 %** and Average loss of **0.0465** in just 5 epochs

LIFE PHILOSOPHY

"Invest in the truly important things in life. Remember, everything that is worth something costs something."

Patience
"Brick by Brick" , "Drop by Drop"

Persistence
"Keep On Keeping On"

EDUCATION

B.Tech. in Chemical Engineering

Indian Institute of Technology Mumbai

July 2017 – May 2021 CGPA : 8.0

Semester Exchange

Danmarks Tekniske Universitet

Jan 2019 – June 2019 CGPA : 8.0

- JEE Mains Qualified with All India Rank 735 out of 1.2 million candidates
- JEE Advanced Qualified with All India Rank 1382 out of 0.22 million candidates

INTERESTS

Big Data | Machine Learning | Deep Learning | Computer Vision | Algorithms | Data Modeling | Probability Theory | Statistics | Exploratory Data Analysis | Chemical Process Simulation

TECHNICAL SKILLS

Python | R | Scala | PIGLatin | C++ | Julia | Bash | Java | PyTorch | Keras | Tensorflow | Numpy | Pandas | PIL | ScikitLearn | Matplotlib | Opencv | Ggplot2 | dplyr | Hadoop | Mapreduce | YARN | Hive | Pig | Mahout | Spark | Flume | LaTeX

OTHER PROJECTS

Customer Retention Analysis **Hobby Project**

- Understand the causes and scenarios causing attrition of customers and Provide a predictive model that ranks the customers Learn the factors which are strongly correlated with churn rate i.e rate of loss of customer and found possible recommendations to minimize the revenue loss.

Scrapping Books **Hobby Project**

- Scrapping books data from website books.toscrape.com using requests and Beautiful Soup. For every book obtained its title, image, price and stock availability, rating, product description, Other product information and store it in a Sqlite database.

Age Prediction of Indian Actors **Hobby Project**

- Predicted the age group of a person from his or her facial attributes either as Young, Middle or Old. Indian Movie Face database (IMFDB) consisting of images of 100 Indian actors was used. Resnet18 Deep Learning Model was used for the task and accuracy of over 60% was achieved

Titanic **Hobby Project**

- Performed Data Cleaning and Exploratory Data Analysis on Titanic Data set. Implemented Logistic Regression Model , Decision Tree Classifier and a Random Forest Classifier in a Jupyter notebook to get a best accuracy of 83 % on Test data

MyToken **Web and Coding Club**

- Created an android application MyToken in Android Studio using Java and won 3rd place in the Andro-NG Hackathon. Designed the app to facilitate the process of ordering food by the customers in canteens, Main features included in the app were user ids for canteens and the customers and Online canteen rating

Chain Reaction **Guide - Prof Krishna S**

- Developed a real time game using C++ which provides all its users with an interactive interface and Implemented a recursive algorithm using dynamic memory allocation and de-allocation to make the code efficient in terms of running time

Wireless Bot **Electronics and Robotics club**

- Designed a wireless remote controlled bot using IC L293D for XLR8 technical challenge. Integrated Differential Mechanism and manual control using Bluetooth Module HCO5

EXTRA CURRICULAR ACTIVITIES

WORKSHOP	**2nd** position in **Chemical Process Simulation** using **Aspen** Successfully completed Illuminate a certified **Business Model** Attended **Quant Finance Workshop** conducted by World-Quant Attended boot-camp on **Start-up Feasibility** by SINE, IIT Mumbai
SPORTS	Trained in **Volleyball** under NSO program at IIT Mumbai **Gold** in the Tug of War General Championship for Hostel 2
CULTURALS	**1st position** in **Literary Arts** General Championship for Hostel 2 **3rd position** in **Street Play** in Inter hostel Cultural competitions
HOBBIES	**15 Blog posts** about the Semester Exchange experience. Avid **Quora**, **Medium** reader and amateur **Anime** follower Love Badminton, Music

CERTIFICATES

COURSERA : R Programming
Data Science Toolbox
Getting and Cleaning Data
Exploratory Data Analysis

VOLUNTEER EXP.

Blog Series **Exchange Semester**

- Published a Blog Series of 15 posts about my time in Europe, travel, food, and Denmark Technical University

Mentor **E-Cell**

- Mentored three teams each of three freshmen for EnB-Buzz an Innovate Start up Idea competition. Helped them to come up with solution to a problem and then developing a Business model canvas for their Start up.

Organizer **Mood Indigo**

- Worked with a team of volunteers to enhance the experience of student guests from different colleges of India at Mood Indigo the annual cultural fest at IIT Mumbai and helped in the smooth function of other events as well

STRENGTHS

- Strong communication & listening skills.
- Excellent interpersonal skills.
- Flexible and able to work in a team .
- Self-confident with professional behavior .
- High sense of time and co-operation .
- Excellent attention to details and fast learner.