TINKU DHULL

AEROSPACE ENGINEERING (B.Tech)

EDUCATION

Year	Degree/Qualification	Institute	CGPA/Marks
2018	B.Tech	IIT Kharagpur	8.04 / 10
2014	Higher Secondary	CBSE Board	89.6%
2011	Diploma	AICTE Board	74.5%
2008	Secondary	Haryana Board	10 / 10

COMPETITIONS

Predict Ad Clicks — **HackerEarth Machine Learning Challenge** — **July-August 2017**

- **Ranked 1 out of 5300 participants** in the competition sponsored by **IBM**, won a prize money of **$700**
- Predicted the probability of an ad click, created many new features to improve the model performance, got an auc of 0.684
- Used gradient boosting technique to train and validate the model on dataset of **size 1.2 GB**
- Removed highly correlated features to prevent the model from overfitting and to get a good bias-variance trade-off

Movie Recommendation System — **Capillary's IIT KGP Data Science Challenge** — **September 2017**

- Built a movies **Recommendation Engine** based on the user history, **secured 4th rank** at my institute
- Used **k-means clustering** to create clusters of similar movies and recommending movies to a particular user

Digit Recognizer — **Kaggle** — **March-July 2017**

- To correctly identify the digits from handwritten images, **fully connected neural network** resulted in an accuracy of 97.4%
- To increase the accuracy, used **convolutional neural networks** which boosted the accuracy to 99.47%

Predict Damage to a Building — **HackerEarth Machine Learning Challenge** — **June-August 2018**

- Given the building and earthquake data, predict the degree of damage that is done to a building post an earthquake
- Used label encoding, feature normalization, dropped redundant features and LightGBM boosting algorithm for model building
- Able to achieve an **F1 score of .7829** and featured in **top 1%** out of **7400 participants**

New York City Taxi Trip Duration — **Kaggle** — **July-August 2017**

- Built a model to predict the total ride duration of taxi trips in New York City
- Explored the data using several graphs and plots for finding out the relative importance of different variables
- Created new features and applied gradient boosting algorithm to get RMSLE of 0.391

Understanding Customer Purchase Behaviour — **Analytics Vidhya** — **March-April 2017**

- Using demographic data of customers and their purchase behaviours, built a model that predicts their purchase amounts
- Normalized the data after missing values imputation, applied various machine learning algorithms like **random forests, linear regression, deep learning, gradient boosting** to build the model
- Built an ensemble model of two boosting algorithms which gave the best result

INTERNSHIPS

Automation of Leave Management System — **ValeurHR E-Solutions Pvt. Ltd.** — **May-June 2017**

- The project aimed to devise a model that can automatically sanction or reject the leave application of an employee
- Trained and tested the logistic regression model using 10 folds cross validation to avoid overfitting, got an **auc of 0.8084**
- The **developed model replaced the manual method** used before, hence **increased efficiency** and reduced latency

Market Research — **Zenten Media Pvt. Ltd.** — **June 2016**

- Devised a new model to analyse the **text data using statistical software R**, saving a lot of manual work and time
- Analysed the social media data and finally came up with a list of top Dermatologists and Veterinary Doctors in Gurugram
- The proposed work was **implemented in the company's website**

SKILLS AND EXPERTISE

- Programming Languages : R (proficient), Python (proficient), C (Intermediate), Java (Intermediate)
- Data Analytics : Machine Learning, Natural Language Processing, Deep Learning

COURSEWORK INFORMATION

- Probability and Statistics
- Numerical Solutions of ODE and PDE
- Computer Applications in Aerospace Engineering
- Transform Calculus

EXTRA CURRICULAR ACTIVITIES

- Part of 2 consecutive gold winning inter-hall Water-polo team, gold winning illumination and silver winning Rangoli team.
- Volunteer in National Service Scheme (NSS), taught English and Mathematics in Primary School, surveyed 2 villages and helped people in opening bank accounts