DHRUV PATEL

MTECH (Industrial & Management Engineering)

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ACADEMIC QUALIFICATION

YEAR	QUALIFICATION	INSTITUTE/UNIVERSITY	PERFORMANCE
2018-Present	M-Tech (IME)	Indian Institute of Technology, Kanpur	9.76* (CPI)
2018	B.E. (Mechanical)	L.D. College of Engineering, Ahmedabad	7.67 (CPI)
2014	Class XII, GSEB Board	Nishkal Public School, Ahmedabad	87.4%
2012	Class X, GSEB Board	N.M. High School, Ahmedabad	92%

up to 2nd semester

INTERNSHIP

Data Science Intern at Tatvic Analytics   *May '19- July '19*

- **Article Virality Prediction for a Publisher Website**
  -Designed a POC for a publisher website that predicts **potential page views** of the article in the next 3 days.
  -Prepared and cleaned **training dataset** of around **2 lakh** news articles and **created features** using **GA360** website tracking data and content of articles using NLP techniques such as **topic modelling**.
  -Implemented **Artificial Neural network** models starting from **linear regressor** to **DNN regressor** using **Estimator API-TensorFlow** in **Python**.
  -Tuned **hyperparameters** using **Google cloud ML engine** and finalized a model with **R-Squared** value **0.69** and **RMSE** 172.
  -Deployed the model on **ML engine** and designed **end-to-end process** using **GCP-Cloud Functions** for real-time **serverless predictions** and **updating.**
- **A/B Testing Report Dashboard for a Publisher Website using R Shiny**
  - Automated the process of building **Causal Impact model** to analyse pre-data and post-data after an event for a client website, with the help of **R Shiny** and designed a user-friendly dashboard to visualize the **causal effect** and **statistical significance** of the effect.

ACADEMIC PROJECTS

Credit Card Fraud Detection using Hidden Markov Models   *Jan '19-Mar '19*

- Used simulated data of a credit card user to train a **Hidden Markov Model** and estimated **transition probabilities** and **emission probabilities** using **Forward-backward algorithm** and sequentially predicted whether the upcoming transaction is fraud or not with **recall=** 0.81 and **F1-score**= 0.67.

Survey on Vodafone-idea Ltd to Find Market Segmentation and Reasons for Customer Churning   *Feb '19-Apr '19*

- Designed a **cross-sectional**, **dynamic survey form** using **Scaling techniques** and collected sample data using **online surveys** and **focus groups.**
- Conducted **Exploratory**, **Descriptive Research** and analysed data using **statistical tests** (**Chi-squared**, **one-way ANOVA**) in **SPSS** to test **hypotheses**.

Analysis of the Factors Affecting Prices of Real Estates   *Jan '19-Feb '19*

- Carried out multivariate statistical regression analysis to study the factors influencing real estate prices.
- Calculated **measure of fit**, **correlation matrix**, performed **EDA**, **heteroskedasticity test** and checked for **multicollinearity** and **omitted variable bias.**
- Built log-linear, linear-log, log-log, and non-linear models and finalized a model with adjusted **R-squared** value 0.79 and **SER**=0.203.

Ethereum Price Prediction using Time Series Analysis   *Mar '19-Apr '19*

- Checked for **trend**, **stationarity, seasonality** using various tests such as **Dickey-fuller test**, **Box-Ljung test,** and **ACF**, **PACF** plots, for **Ethereum stock price data** from **April 2016 to February 2019** and built time-series models such as **Exponential Smoothing, AR Model**, **ARIMA** and **ADL model**.
- Finalized a model with the best fit based on **RMSFE** and predicted Ethereum closing price for **45 consecutive days** with **RMSFE**=37.22.

Telecom Customer Churn Prediction   *Nov '18-Dec '18*

- From the **skewed** dataset with 21 variables, applied **SMOTE** and **RFE**-Recursive Feature Elimination, to improve the baseline models to predict churn.
- Applied 5 classification models -**Logistic Regression**, **Naïve Bayes**, **Decision Tree**, **Random Forest** and **SVM** on the data.
- Applied several **Cross-Validation techniques** to test the models and finalized SVM with **accuracy**= 0.85 and **AUC**=0.87.

Computer Aided Decision Support System Projects   *Mar '19-Apr '19*

- Designed user-friendly and **dynamic DSS** to compare means of groups using **one-way ANOVA** method, leveraging **PHP** and **HTML** on the server.
- Designed a **Relational Database** in **MariaDB** for managing students' data and connected with Dashboard using PHP to store the data entered by user

POSITIONS OF RESPONSIBILITY

Group Leader, Consulting Group, IIT Kanpur   *Feb '19-Present*

Leadership	• Coordinating in a team of **3 leads** and responsible for organizing various introductory **sessions related to consulting/analytics, bringing projects** from various organizations, **recruiting students for projects** and **guiding the teams throughout** the project. • Led a team of **8 students** for a project assigned by **Rotary Foundation, India** and completed the project successfully.
Initiatives	• Started **Kaggle weeks** at institute level to promote collaborative learning for all data science enthusiasts in the campus community.

Secretary, PG Academics, Academics and Career Council, IIT Kanpur   *Aug '19-Present*

Work	• Responsible for managing various sessions of council and gathering students' opinions on critical issues related to academics.

Internship Coordinator, IME Department, IIT Kanpur   *Aug '18-Apr '19*

Leadership	• Coordinated in a **team of 4** and completed the Summer Internship process for IME-MTech batch.

Member of SSAC (Student Senate for Academic Discipline) Committee, IIT Kanpur   *Aug '18- May '19*

Work	• Handled various disciplinary cases on the campus by coordinating with the faculties. Handled **30+ cases** in a tenure of 2 semesters.

COURSEWORK AND SKILLS

Relevant Courses	**Data mining and Knowledge Discovery**| **Probability and Statistics**| **Machine Learning** | **Operation Research**| **Statistical Modelling for Business Analytics** | **Marketing Research** | Advanced Statistical Modelling for Business Analytics | Stochastic Processes and Their Applications | Computer Aided Decision Support Systems | Introduction to computing-JAVA
Skills	Python | R | JAVA | SQL | MS Excel | R Shiny | HTML | PHP | SPSS | GCP (Basic Tools)

CERTIFICATIONS/AWARDS/ACHIEVEMENTS

- From Data to Insights with Google Cloud Platform- A Specialization on Coursera (4 courses related to GCP tools for data science**,** Avg. Grade**: 97.05%**)
- Machine Learning with TensorFlow on GCP-A Specialization on Coursera (5 courses related to **TensorFlow** and **Cloud ML engine**, Avg. Grade**: 93.58%**)
- SQL for Data Science on Coursera (4 weeks of hands-on learning with assignments/projects, Grade obtained: **96.1%**)
- A Certification in **NLP** (Natural Language Processing) and **Big Data** -A Classroom Course by **GIAN** at IIT Kanpur.
- **Academic Excellence Award, 2018**-By **Director, IIT Kanpur** for outstanding academic performance across all departments given to **top 7%** students.
- Secured **99.20** percentile in **GATE** Mechanical 2018.