SAURABH MADHUKAR PATARE

M.Tech (Industrial and Management Engineering)

ACADEMIC DETAILS			
YEAR	QUALIFICATION	INSTITUTE	PERFORMANCE
2019	M.Tech (Industrial and Management Engineering)	Indian Institute of Technology, Kanpur	8.0*
2018	B.Tech (Mechanical Engineering)	V.I.T. Pune	8.38
2014	Class XII , Maharashtra Board	S.B.E.S. College of Science	83.08
2012	Class X , C.B.S.E.	Kendriya Vidyalaya, Aurangabad	10.0

* Upto 2nd semester

ACADEMIC PROJECTS				
Data Mining	Store Item Demand Forecasting (Oct'19-Nov'19)			
J	• Objective: To forecast 3 months of sales for 50 different items at 10 different stores using 5 years of store-item sale data			
	• Inspected the data for Trend, Cyclicity and Seasonality; Non stationarity of data was confirmed using Dickey Fuller test			
	• Applied ARIMA model: Transformed the data into stationary time series and decided the number of terms in			
	Autoregressor and Moving Average parts using ACF and PACF plots			
	 Best results were obtained using Prophet Model with SMAPE (Symmetric Mean Absolute Percentage Error) of 1.89 			
Statistical	Bank Marketing data - Intelligent targeting (Mar'20-Apr'20)			
Modelling for	Objective: To predict whether a customer will subscribe to the term deposit or not using previous marketing campaign			
Business	dataset having around 11k data points and 17 variables			
Analytics	 Performed univariate and bivariate visualization using box plot, bar chart and line chart 			
Analytics	Carried out feature engineering in which created dummy variables and created some extra features			
	 Models used: Probit and Logit. Recursive feature elimination was done to finally obtain a model giving Area Under Curve (AUC) of 0.85 for the December Operation Characteristics (DOC) surge constituity of 0.73 and 51 evens of 0.74. 			
	(AOC) of 0.85 for the Receiver Operating Characteristics (ROC) curve, sensitivity of 0.72 and F1 score of 0.74			
	Random Forest further improved the performance to give sensitivity of 0.89 and F1 score of 0.88			
	Medical insurance Premium Prediction (Jan 20-Feb 20)			
	Objective : To obtain a relationship between the cost of medical insurance premium and independent variables like sex age smoking babit BML children and region using multiple linear regression			
	Scatter plots have plots and histograms were used to get important insights of the data			
	 Calculated correlation matrix performed White test to determine heteroskedasticity and checked for 			
	multicollinearity. Linear models were built and highest R square value of 0.747 was obtained			
	• An additional attribute of BMI of Smoker (Interaction variable) was included and then data was modelled to get			
	improved R square of 0.818			
Marketing	Brand comparison between footwear brands(Adidas, Nike, Puma) (Feb'20-Apr'20)			
Research	Objective: To compare the footwear brands on the basis of Price, build features, durability etc.; To study the effects of			
	discounts, celebrity endorsements and advertisements on the customer behaviour			
	Questionnaire was designed and data was collected using an online survey			
	 Hypotheses were formulated and one tail and two tail statistical tests were conducted for each of the hypothesis The SPES analysis provided useful insights to understand consumer behaviour and beloed to compare between the brands 			
	• The St SS analysis provided diserter insights to understand consumer behaviour and helped to compare between the brands			
COURSEWORK AND SKILLS				
Courses	Data Mining and Knowledge Discovery Probability & Statistics Introduction to Computing Stochastic Processes and their			
	Applications Marketing Research Statistical Modelling for Business Analytics Introduction to Game Theory (on-going			
Technical skills	Durthen (Nummy Dandes Matelatility Saikit Learn, Sacharn) (C. Lavel SOL MS Office (Even) Word DeverDaint)			
	R (Python (Numpy, Pandas, Matpioting, Scikit-Learn, Seaborn) (C Java SQL Mis Office (Excel, Word, PowerPoint)			
Harvesting India Pvt. Ltd. (Apr'20- Jun'20)				
Building Footprint Regularisation				
Reviewed around 15 research papers to propose a specific, robust and effective polygon regularization algorithm that transforms the				
segmented building boundary to structured rootprints; The algorithm is in deployment stage in the company				
 Programmable whatsapp messaging Deviced a system to send petifications on Whatsapp to the systemer on receiving the payment using Twilie API for Whatsapp: Tested 				
successf	fully in the sandbox environment			
ACHIEVEMENT	S AND CERTIFICATIONS			
B Programming (Loops, Matrix and vector usage, Debugging, simulation and profiling)				
 Machine Learning (Regression, SVM, Ensemble methods, Decision tree, Clustering, PCA, SGD) 				
Deep Learning: Hands on Artificial Neural Networks				
Introduction to Data Structures and Algorithms (Arrays, Stacks, Queue, Linked list, Recursion and trees)				
Participated and secured good positions at various national level Science and Maths Olympiads.				
Letter of	 Letter of appreciation from Maharashtra Board of Higher Secondary Education for performance in H.S.C. Letter of appreciation from Ministry of H.P.D for performance in S.S.C. 			
Letter of appreciation from Ministry of H.R.D for performance in S.S.C				
Served a	as Teaching Assistant for the course of Probability and Statistics, Industrial and Management Engineering, IIT Kanpur			
EXTRA CIRRICI	JLAR			

• Participated in a week long Meditation and Yoga workshop organized by VOICE (Vedic Oasis for Inspiration, Culture and Education)