VIKRAMA. R

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EDUCATION
* till 2nd sem

Qualification	Institute/Board	Percentage/CGPA	Year
MTech (Industrial and Management Engineering)	IIT Kanpur	9.15*	2021-Present
BE (Biomedical Engineering)	PSGCT, Coimbatore	8.25	2016-2020
Higher Secondary	TNBHSE	97.4%	2016
Secondary	TNBSE	97%	2014

PROFESSIONAL EXPERIENCE

Data Science Intern | Mphasis Next Labs *Jun'22-Jul'22*

Project 1: Robustness and Sensitivity Measures for Deep Neural Networks | Adversarial Machine Learning
- Performed extensive research on robustness metrics that reflects **sensitivity** and **robustness** of DNN for adversarial attacks
- Used evasion attack-**Fastest Gradient Sign Method** to measure metrics & proposed framework for **Keras** and **Pytorch** classifiers
- Served the algorithm using **flask**, followed by containerization using **Docker** and deployed the model in **AWS Sagemaker**
- Proposed solutions for Tabular and Image data are published to **AWS Marketplace** as *Robustness Measures: Image* & *Robustness Metrics: Tabular*

Project 2: Impact of Poisoning Attacks | Adversarial Machine Learning
- Performed extensive research on **poisoning attacks** that perturbate train data of **deep neural networks**
- Used key poisoning attacks to perturbate and measure the difference in accuracy between **pure** and **adversarial** model
- Worked on proposing **new framework** for measuring poisoning attack impact on regression using the measure of change in quantiles

KEY ACADEMIC PROJECTS

Sentiment Analysis on Twitter Data of UP Election 2022 | Applied Machine Learning | NLP *Feb'22-Mar'22*
- Scraped **302615** tweets using **snscrape** with relevant hashtags for UP Election,found english tweets using **langid**,labelled using **Vader**
- Performed EDA,stop word removal,**tokenization,lemmatization,word embedding** with **300 dimensions** after **encoding** and **padding**
- Trained a **3-layer LSTM model**, validated with Vader labels, got accuracy of **86.4%** and insights like parties' positive tweets share

Murder Rate Analysis | Statistical Modelling for Business Analytics | Panel Data Regression *Sep'21-Oct'21*
- Analyzed effect of executions on murders committed from dataset with **30** states(entities) and **3** years(periods)
- Performed **pooled regression**, regression with **time fixed** and **entity fixed effects** to overcome **omitted variable bias**
- Obtained **R^2 score** of **0.935** for **panel data regression** with both time and entity fixed effect

Sales Analysis Using Multivariate Regression | Statistical Modelling for Business Analytics | Linear Regression *Aug'21-Sep'21*
- Analyzed dataset of over 8500 records with 16 features, analyzed which features drive the sales predominantly
- Obtained two d**erived variables** that drives sales & used **log transformation** for dependent variable to overcome **heteroscedasticity**
- Obtained **R^2 score of 0.72** for the best four features based on **variance inflation factor** which drove the sales

Market research project on low market penetration of WhatsApp Pay in India | Marketing Research *Feb'20-Apr'20*
- Done extensive research to find the information needed to analyze the poor market penetration of WhatsApp Pay
- Formulated **Management Decision** & **Market Research problems**, Research Questions, and Hypotheses
- Designed survey with questions based on **4P**s(product,price,place,promotion) using **Likert Scale techniques**,collected 150+ samples
- Verified hypotheses using **One Sample t-test** in **SPSS,** found **lack of few features** and **poor UI** as the reasons for poor customer base

PUBLICATIONS
* under review
- **Automatic and non-invasive Parkinson's disease diagnosis and severity rating using LSTM network**. Applied Soft Computing.
- **Impact of load carriage on metabolic cost - Human Gait Analysis using data augmentation and modeling**. Computational Intelligence & Neuroscience.*

OTHER ACTIVITIES

Unnaticraft Project | Navjyoti India Foundation | IITK Consulting Group *Jan'22-Mar'22*
- Recommended an **inventory-based business model** with **scaling up strategy** and a new tagline for **SEO** for increasing sales
- Recommended **UX/UI changes** on the handicraft website for better **customer experience** and **retention**
- Suggested focus areas like website/media handling, purchasing raw material via **GeM**, creating impact stories & corporate collaboration

Forecasting Exchange Rate (Yuan/USD) | Time Series Analysis | Public Policy Opinion Cell *Jun'22-Jul'22*
- Forecasted monthly Exchange Rate with **268 months** data (1991 to 2014)
- Checked Stationarity, Seasonality, Trend using **ADF test**, **ACF,** and **PACF** plot and applied Time Series models–**AR,MA,ARMA,ARIMA**
- Forecasted Exchange Rate for next **67 months** (2014-2019) based on best tuned model **ARIMA (1,1,1)** with **RMSE 0.36**

'The CruxX' | Business Idea | Mobile App | Self Project *Jan'22-May'22*
- Built a **short news app** that reinforces completeness & credibility after validation of product idea through **market research survey**
- Pitched business idea in various **inter-college** events, refined the idea & product prototype has been launched to get **post use survey**

COURSEWORK AND SKILLS
* in progress

Thesis Work*	**Gender Bias in the Cultural Sphere:Evidence using Natural Language Processing Techniques** | Analyzing gender bias from YouTube comments of renowned quiz | Natural Language Processing | Causal Inference Methods | Web Scrapping
Relevant Courses	**Causal Inference Methods for Business Analytics*** | **Statistical Modelling for Business Analytics** | **Applied Machine Learning** | Data Mining & Knowledge Discovery* | **Probability & Statistics** | **Macroeconomic Analysis for Management**
Technical Skills	**Python|SQL|R***|Tableau|MS Excel|C#|Flutter **DS**: Keras,Numpy,Pandas,Scikit learn,Statsmodel,Regex,Matplotlib,Seaborn

ACHIEVEMENTS & EXTRACURRICULAR ACTIVITIES

- **National winner** in **Consulting case competition** under PRABANDHAN-2021 conducted by MBA, IME, IITK
- Won **second** prize in **business idea pitching competition**, Pitch Prime-2022 conducted by E-Cell, IITK
- Active **content creator** in LinkedIn posting about **public policies, data science, and startups** with **3000+ followers**
- Secured **first** place in **paper presentation** in **NATIONAL LEVEL TECHNICAL SYMPOSIUM**, Medicnik in 2019
- Secured **second** place in **district-level Talent Hunt Examination** conducted by V.V. Rajan & Co in 2010

POSITION OF RESPONSIBILITY

Senior Placement Coordinator - MTech IME, IITK *Aug'22-Present*
- Assisting placement drive of **18** students of MTech IME Y21 batch

Secretary- IITK Consulting Group *Aug'21-May'22*
- Led a team of **5** and provided **pro-bono consulting** to NGOs

Junior Placement Coordinator - MTech IME, IITK *Aug'21-Jul'22*
- Achieved **100% success rate** in Summer Internship Drive 2021-22 for **21** students of MTech IME Y21 Batch

Cadet - National Cadet Corps *Aug'16-Aug'19*
- Trained and led a team of **16** juniors and won a wide range of competitions like **drill, volleyball, NIAP, guard of honor** etc