Vishal Kumar Sharma

Data Analytics Developer @ Legal & General

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Stackoverflow:https://stackoverflow.com/users/12262111/vishal-sharma

Highly analytical and process-oriented scientist, strategist, and technical community builder with 9 years of cross-industry experience and significant experience in Analytics, Machine learning, Predictive Modeling, Classification Models, data visualizations, Exploratory data analysis, and other data science activities. Highly skilled in R Programming, Linear Regression, Statistics, intermediate skills in Python and a master's degree in Data Science from BITS, Pilani. Working Experience of FORTUNE 500 company. Passionate about integrating statistical and computation methods into digital products to drive business value. I am a driven leader with interdisciplinary, technical background, combining academic curiosity with industry best practices. I greatly value mentorship, collaborative team building, creative solutioning, transparency, and personal growth. Pursuing Ph.D. in Computer Science and Engineering from Amity University, Noida.

CORE EXPERTISE

- Machine Learning Modeling Techniques – Classification and Regression models (Linear Regression, Logistic Regression, Clustering, SVM, k-NN Algorithm, Neural Networks)
- Statistical programming language: R Programming, Python
- Dashboard development using R Shiny, Tableau, and Power BI
- Visualization Tools: D3.js, ggplot, Plotly, highchartr
- Proficient in Data mining activities
- Shell Scripting, R scripting and Python scripting for automating various processes
- Domain Exposure: Insurance, Banking, Real Estate, Manufacturing
- Attribute information Analysis
- Leveraged TensorFlow and keras implementations in R & Python for Deep Learning approaches
- NLP techniques namely Bag of Words, TF-IDF, TF-IDF-CF, POS-Tagging and word embedding etc.
- Latex for Markdown, bubbles.io, Zapier Automation, GitHub, HTML, CSS, JS, Azure Devops
- RStudio Connect, Shinyapps server, R Studio Community, R Presentation, Development of R Packages
- Solvency II, Prudential Regulations Authority, SEPA Payments, Financial Accounting, Portfolio Pricing

TECHNICAL EXPERTISE

Programming Language	R Programming, Python, HTML, CSS, JavaScript, LaTeX, VBA, SQL, Java, Shell Scripting
Operating System	Windows 10, Windows 7, UNIX
Database Tools	Snowflake DB, SQL Server 2012, MS Access, Oracle SQL Developer, TORA

Tools	R Studio, Posit Connect, Jupyter Notebook, Visual Studio Code, D3.js, Plotly, WEKA, MS Excel, Zapier, Amazon AWS, Tableau, Power BI, Power Automate, Google Colab
Key Skills	R Shiny, Machine Learning, Data visualization, Exploratory Data Analysis, Modeling, Information Retrieval

EDUCATION

Ph.D. (2021-2025)

College	:	Amity University, Noida
Stream	:	Computer Science Engineering
Thesis Title	:	**Detecting DeepFake Videos Based on Spatio-temporal Features & Audio-Visual Modalities Using Artificial Intelligence**

Masters (2017-2020)

College	:	Birla Institute of Technology and Science, Pilani (BITS, Pilani)
Stream	:	Software Systems (Specialization in Data Science)
Overall CGPA	:	**8.47**

Bachelors (2011-2015)

College	:	Inderprastha Engineering College, Ghaziabad
Stream	:	Computer Science And Engineering
Overall Percentage	:	**72.9%**

EXPERIENCE

Data Analytics Developer (Apr'23 - till date)

Organization: Legal & General Insurance (https://www.legalandgeneral.com/)

Project: Accumulation of Risk | Domain: Data Analytics | R Programming, Shiny

Roles and Responsibilities:

- Shiny app for underwriters to calculate accumulation of risk on a quote/location
- Includes map analysis using leaflet
- Visualisations using plotly and highcharts

Project: GIP Claims Prediction | Domain: Data Science | Dataiku, R Programming, Shiny

Roles and Responsibilities:

- Two class classification to identify if the claim can go into payment or not
- Aggregate and organize claim-related data from various sources, ensuring accuracy and completeness

- Perform exploratory data analysis to identify trends, patterns, and influential factors that affect claim outcomes
- Build and train predictive models using statistical or machine learning techniques to determine the likelihood of claims resulting in payments
- Continuously validate and test the model for accuracy and reliability against known outcomes and refine as necessary
- Generate reports summarizing predictions and insights; communicate findings and recommendations to stakeholders for informed decision-making

Senior Analyst – Pricing/R Shiny Developer (Jul'21 – Apr'23)

Organization: Equipped Analytical Intelligence (https://www.equipped.ai/)

Project: Portfolio Pricing | Domain: Data Science | R Programming

Client – Amitra Capital, Anacap Financial Partners, Veld Capital

Roles and Responsibilities:

- Pricing prospective investment opportunities and existing investments
- Performing loans, non-performing loans, and securitisation pricing
- Identify the probability of default along with future collections and prepayments in loans
- Create models to identify the best price to purchase the portfolio
- Preparation of risk and return analysis in the Investment Review Committee (IRC) document
- Multiple successful portfolios purchased with a maximum of £150 million

Project: Minerva Product Analytics | Domain: Data Science | R Programming   **Client – Internal**

Roles and Responsibilities:

- Perform competitive analysis of the products and services offered in the market by FinTech Organisations
- Gap analysis on the identified products and services
- Led the team for the development of analytical products to be offered
- Memorandum analytics based on NLP techniques
- Channel mix model to predict the potential channel for the borrowers in Non-Performing Loans
- Database Health and audit tool for all the databases in the data warehouse

Project: Dashboard Optimization | Domain: Data Science | Tableau, R Programming   **Client – Multiple**

Roles and Responsibilities:

- Convert the R Shiny Dashboards to Tableau dashboards
- Lead a team of three analysts for the migration
- Optimization of the existing R Shiny Dashboards using advanced R Concepts
- Accelerate the performance of BAUs
- Adding or Creating Dimensions, Measures and Calculations as required
- Calculation of the Underwritten and the forecasting numbers

Project: Delivery Engine | Domain: Data Science | R Programming   **Client – Internal**

Roles and Responsibilities:

- Develop a natural language system to predict the potential standardized value for a new categorical value found in the data warehouse
- Create a pipeline for one-click automation of Quality Checks and workflow efficiencies
- Create functions for the automation of certain activities performed by the team (Report Generation & QA)
- Create an algorithm for the rationalisation of code across teams
- Create data standardization mapping using NLP

Project: Equipped Library | Domain: Data Science | R Programming & Python   **Client – Internal**

Roles and Responsibilities:

- Create an end-to-end R library from scratch
- Create functions supporting Performing and Non-Performing Loans
- Utility functions for the entire organization
- Contribute to the analytical concepts implemented in the deals
- Support team for technical stuff
- Conduct Internal trainings to teach the team R concepts
- Implement analytical concepts like Markov Chains in R
- Create models for predicting the strength of the portfolio
- Create data standardization mapping using NLP

Data Scientist (Jan'20 - Jun'21)

Organization: CBRE (https://www.cbre.com/)

Project: Portfolio Transformation Calculator | Domain: Real Estate   **Client – Multiple Clients**
Link: https://vantage-delivered.com/calculator/index.html

Roles and Responsibilities:

- Predict potential savings due to reduced staff during COVID-19
- Provide the flexibility to connect to various products based on the space calculation
- Build best-in-class dashboard for multiple stakeholders
- Plot the complete output before and after COVID-19 and predict the expected reduction in cost
- Enable sharing functionality for sharing the scenario to other users

Project: EDA Automation | Domain: Data Science   **Client – Internal Tool**

Roles and Responsibilities:

- Automate the generation of EDA Document so that anyone can run it
- Creating and regular updates in conditional library
- Resolve queries raised by stakeholders in conditions or graphs
- Contribute into the documentation of the process so as to assist to various team members

Project: CBRE Pathfinder| Domain: Real Estate   **Client – Internal Tool**
Link: https://cbre-client-solutions.shinyapps.io/Pathfinder_UI/_w_43db1e55/

Roles and Responsibilities:

- Dashboard for executing and fetching results from various models/algorithms defined by CBRE experts
- Implement supervised learning methods to assist in the property management decisions for the clients
- The models created in Python and accessed using APIs in R
- Flask app runs on AWS and then APIs are hit using R to get the results after the execution of algorithm
- Flexibility to choose and run selected algorithms, download the results and save it
- Leveraging the output of the model to create the dashboards in Tableau

Project: Client Portfolio Dashboard | Domain: Real Estate   **Client – Multiple Clients**

Roles and Responsibilities:

- Create portfolio dashboard for various fortune 500 clients.
- Build best-in-class dashboard for multiple stakeholders
- Notification for the expiration of lease coming soon
- Graphs representing the area wise leases, owned or subleased properties
- Portfolio representing total area, total annual rent and operating expenses shown in the dashboard
- Maps showing the location of every office
- Resolving any data or performance issues related to workbooks and data sources
- Coordinating with Tableau Admin Team for Production Deployment

Project: CBRE Dimensions | Domain: Data Science   **Client – Multiple Clients**
Link: https://maps.cbre.com/GC17

Roles and Responsibilities:

- CBRE's Location Intelligence System
- On the basis of city names, location name, etc., identify the complete address with location intelligence
- Find the latitude longitude using the location attributes using google maps API
- Flexibility to map user variables with the standard variables so as to assist in location findings

Project: Portfolio Sites | Domain: Real Estate   **Client – Apergy**
Link: https://cbre-client-solutions.shinyapps.io/Apergy/_w_0e26f17b/

Roles and Responsibilities:

- Dashboard to present the various types of sites/locations
- Information regarding the sites for example size, annual rent, workforce, etc.
- Filtering of locations on the basis of various factors

Project: COVID-19 Datasets | Domain: Web Scrapping   **Client – Internal**
Link: https://rpubs.com/vishalsharma3003/covid-19-datasets

Roles and Responsibilities:

- Web scrapping for COVID-19 Datasets
- Research and gather various COVID-19 datasets for further use

Project: COVID-19 Dashboard | Domain: Data Science   **Client – Learning**
Link: https://vishalsharma.shinyapps.io/COVID-19/

Roles and Responsibilities:

- Dashboard for tracking Corona Virus cases throughout the world
- This was just for practice purpose

Junior Data Scientist (Jul'15 - Jan'20)

Organization: Sopra Banking Software (https://www.soprabanking.com/)

Project: Sopra Banking Platform | Domain: Banking   **Client – National Savings and Investments Bank, UK**

Roles and Responsibilities:

- Extending information with third-party sources of information when needed (Experian/GB Group)
- Data mining using state-of-the-art methods
- Enhancing data collection procedures to include information that is relevant for building analytics systems
- Processing, cleansing, and verifying the integrity of data used for analysis
- Use of machine learning techniques such as k-means, neural networks, Naive Bayes, SVM, Decision trees, Random forest, etc.
- Developing Predictive Models to determine users likeliness of subscribing to a term deposit
- Build a R shiny web app to showcase the interactive visualizations
- Developed an automated fetching campaign wise data of calls for doing data science and analysis activities
- Built end to end churn model for NS&I Bank
- Generating the reports to show to customers in R Markdown document.
- Interactive visualization using d3.js

Project: Prediction of house prices | Domain: Real Estate   **Client – ACORN properties, UK**

Roles and Responsibilities:

- Identify the area wise housing price in UK

- Outlier detection for extraordinary houses to be taken care separately

- Area wise frequency of type of house – detached, semi-detached, terraced.

- According to area, type of house, age, etc. predict the price of house and present to the customer while posting advertisement.

- Based on time series analysis, predict the price of houses in future

- Customer Segmentation and analysis – RFM algorithm to bucket customer into different categories

- Performed statistical analysis on the customer web data to track customer usage of the website and generate engagement reports.

- Presentation and embedding the model into website using the R Shiny app

- Visualizations using ggplot and heatmaps for correlation matrix.

Project: Airbus | Domain: Manufacturing   **Client – Airbus**

<u>**Roles and Responsibilities:**</u>

- Impact Analysis (Apriori Algorithm for association)
- Worked with various NLP techniques namely Bag of Words, TF-IDF, TF-IDF-CF, POS-Tagging and word embedding etc.
- Performed Risk Analysis and have applied various statistical and predictive models like naive forecast, time series analysis, and multiple linear regression to detect the correct resolved group
- Presentation of data to the customer using Qlik Sense

ACCOMPLISHMENTS

- **Fortune 500** company experience of 2 years
- **Git certification** from LinkedIn Learning
- Multiple **Python certifications** from LinkedIn Learning
- Nominated and won first prize for **best shiny app** within organization
- Awarded with **Customer Delight Award** for consistency and commitment towards quality of deliveries.
- Awarded with **several applauses** for acquiring the skills in faster pace and working on multiple activities altogether and complete them quickly.
- 1-year travel experience to **England (Durham)**.
- 2 months' travel experience to **Belgium (Brussels)**.
- Completed **Data Analytics MOOCs** from edX, Coursera and DataCamp.
- Certification in **SAS** from Impartus, Gurgaon.
- Participant in 5C Tournaments for organization, playing **basketball** for representing organization.
- **Won first prize** in Group Dance in an event in Sopra Steria named Impulse'15.
- Active participant of organizational activities, which lead to organizational as well as personal growth.
- An active member of an initiative of Sopra Banking i.e., **Yogdaan** to help to poor and needy people.
- Got appreciation from Manager for keeping team environment lively.

CONFERENCES

- **4th International Conference on Advances and Applications of Artificial Intelligence and Machine Learning – Springer Group**
- **2023 Second International Conference on Informatics – IEEE**

STRENGTHS

- ➔ Optimistic
- ➔ Patience towards completion of tasks
- ➔ Punctual with deadlines
- ➔ Positive attitude towards work
- ➔ Supreme communication skills
- ➔ Time and task management
- ➔ Quick learning ability
- ➔ Good team player
- ➔ Technology Agnostic
- ➔ Email etiquettes
- ➔ Innovative

PERSONAL INFORMATION

Spouse's Name   : Yogeeta Sharma

Father's Name   : Surender Kumar Sharma

Mother's Name   : Reeta Sharma

Date of Birth   : 30th March 1994

Marital Status   : Married

Nationality   : Indian