Shivani Singh

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5 years hands-on data scientist, driving technical expertise, team development, and cross-functional collaboration to deliver impactful solutions.

EDUCATION

Columbia University, New York, NY	MS-Applied Analytics (GPA: 4.01/4.0)	Sep 2023 - Dec 2024
Goa Institute Of Management	MBA (GPA: 3.8/4.0)	2019-2021
AKTU	B.Tech -Computer Science and Engineering	2013-2017

SKILLS

Programming Languages: Python (NumPy, Pandas, SciPy, scikit-learn, TensorFlow), R (data.table, dplyr, ggplot2, xgboost, randomForest), SQL
Data Science Tools and technology: PySpark, PowerBI, Tableau, Excel, AWS, Git, Jira, Hadoop, Redshift, Natural Language Processing
Core Competencies: Statistics, A/B Testing, Experiment Design, Cohort analysis, Stakeholder Management, Machine Learning, GTM Strategy , Resource Allocation, Project Planning, Reporting, Business Strategy, Experimentation, RFP Proposals

WORK EXPERIENCE

Prudential Financial, New York, US   **Data Scientist Lead intern**   **May '24-Aug '24**
- **Achieved $1.5M in expected annual cost savings** by developing an AI-driven Voice Assistant to handle insurance claims using RAG agents, optimizing the end-to-end latency from audio input to output by integrating multiple models in a multithreaded architecture.
- Enhanced operational efficiency by 30% in customer support through the integration of Large Language Models (LLMs) within a centralized knowledge management system for the Interactive Voice Response (IVR) platform. This significantly reduced the volume of calls related to insurance claims, technical issues, and HR policies by improving query handling and response time.
- Optimized retrieval processes by orchestrating multiple LLM agents using LangChain, coupled with Text-to-SQL techniques and meta-data filtering, resulting in enhanced confidence scores and minimizing response hallucination, thereby increasing the system's reliability and accuracy.

BCG, New York, US   **Python Instructor**   **May '24-Aug '24**
- Coached 2 batches of 20 students each in Python and data structures on weekly basis, helped in building end-to end data science project

Virtusa, Bangalore, India   **Senior Data Science Consultant at Analytics and AI Division**   **Jun '21 - Jul '23**
- **Optimized clinical trial audit process:** Led a team of data scientists to optimize clinical trial audits using Amazon Comprehend, achieving >88% accuracy in sentiment analysis and reducing audit review time by 40%, boosting decision-making efficiency - project link
- Achieved **$1.25M/Year Cost Reduction** in employee man-hours, by employing advanced statistical and machine learning methods to develop a smart anomaly detection system to detect irregularities in audit trails in clinical trial data for a major pharmaceutical client
- Liaised closely with Senior VP and Marketing team by maintaining dashboards for KPIs to do budgeting analysis for projects to be taken up, resource and effort-based cost analysis and resource allocation across Fintech Solution Development and Health Sciences Solution development teams within firm

Virtusa, Hyderabad   **Management Intern**   **Apr '20 - Sept '20**
- Devised Personalized **Financial Recommender System**: Engineered features viz. customer profiles and transaction history, resulting in a 25% increase in customer product engagement
- Employed machine learning to forecast user stress levels and predict potential heart stroke risks from wearables, resulting in a 20% improvement in stress level accuracy and early detection of high-risk cases for health insurance clients

HCL Technologies, Noida, India   **Software Analyst**   **May '17 - Jun '19**
- Developed a robust **customer segmentation model** utilizing 11-year store data, employing K-means clustering and Decision Tree algorithms, resulting in a 25% increase in high-value customer targeting efficiency for the retail client

PROJECTS

-Credit Risk Modeling for Financial Client (Domain: Finance)
Developed a Python-based credit risk model for a bank client, conforming to Basel II/III regulations.
Implemented model that improved risk assessment accuracy by 15%, leading to a efficient loan approval and reducing the client's risk exposure.
-Financial analysis dashboard for Toys "R" US: Tableau Dashboard
Created an interactive Tableau dashboard for Toys "R" Us executives, integrating financial, cost, and competitive analyses to pinpoint downturn factors and recommend data-driven strategic reforms.
-Recommender System for Bank Products (FinTech Industry)
Designed and implemented a hybrid Recommender System by combining Content-Based and Collaborative Filtering, analyzing 45+ user variables to boost customer experience and cross-selling efficiency. 85% accuracy in recommendation precision, optimizing user-item interaction

AWARDS AND RECOGNITIONS

Selected in top 10% from 150,000 applicants for prestigious Indian Academy of Sciences' Summer Research Fellowship. Contributed to development of **India's first microprocessor** (Shakti) at IIT Madras, funded by Govt. of India

GRE Overall score : 339/340 - 170/170 in Quant (99th percentile), 169/170 in Verbal Reasoning (96th percentile)