

Aprajita Singh

Data Science | Machine Learning | Analytics

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MOTIVATION

PhD-qualified Applied Mathematician with 6+ years of research experience, passionate about **solving complex problems** using Data Science & Machine Learning. Systematically and creatively leverages mathematical expertise to **deliver measurable results** and drive innovation. Constantly **learning and evolving**, translating cutting-edge research into **practical business solutions** through data-driven insights.

SKILLS & TOOLS

Programming: Python (Pandas, NumPy, Scikit-Learn, Keras, Matplotlib, Seaborn), R, SQL, MATLAB
Machine Learning: Linear/Logistic Regression, Decision Trees, Random Forest, SVM, KNN, K-means, PCA
Statistics & Math : Hypothesis Testing, A/B Testing, Time Series Analysis, Graph Theory, Optimization
Tools: Excel, Tableau, Jupyter, RStudio

KEY PROJECTS

Decoding Personality Dynamics: Exploring Behavioral Traits in Introverts vs. Extroverts

- **Analyzed 2,900 behavioral observations** from Kaggle dataset using **Python (pandas) and SQL** to identify personality-based patterns, discovering significant behavioral differences including **introverts spending 3.5x more time alone** and **92% correlation between stage fear and introversion**, enabling **targeted marketing segmentation** and personalized business strategies

Machine Learning Applications in Healthcare and Admissions: Predictive Classification Models

- **Developed predictive classification models** for healthcare risk assessment and university admissions using **Logistic Regression and Discriminant Analysis in R**, achieving **78.15% accuracy in diabetes risk prediction** and **93% classification accuracy for admission decisions**, enabling improved clinical decision support and institutional optimization strategies

RESEARCH & ACADEMIC EXPERIENCE

Private Tutor, Independent Practice 2024-Present

- **Manage client relationships and deliver customized educational solutions** while pursuing data science career transition, maintaining analytical problem-solving skills and client communication expertise.

Doctoral Researcher & Graduate Teaching Assistant, University of Texas at Dallas 2018-2024

- Designed **novel signal processing techniques** achieving **40% improvement** in pattern analysis efficiency
- **Managed performance tracking** for 20-30 students per semester, **communicating advanced calculus concepts** and **analyzing learning patterns** to adjust instructional approaches, improving student outcomes through **data-driven insights**
- **Collaborated with faculty and GTAs** on curriculum improvement and **standardized evaluation processes** for 100+ students, developing consistent assessment criteria that enhanced learning outcomes and streamlined grading workflows

EDUCATION

Ph.D. in Mathematics, University of Texas at Dallas 2024

M.S. in Applied Mathematics, South Asian University, Delhi 2018

B.S. in Mathematics, Jesus & Mary College, Delhi 2016

RECENT CERTIFICATIONS

- **Build Three Real-World Python Applications** (LinkedIn Learning, 2025)
Built Python applications for **web scraping**, **real-time financial analytics** with API integration, and **NLP sentiment analysis**, gaining production-level experience in data extraction and business intelligence.
- **Complete Your First Project in SQL** (LinkedIn Learning, 2025)
Analyzed e-commerce database using **advanced SQL** for sales trends, **customer segmentation**, and multi-table queries, developing expertise in **revenue optimization** and retention strategies.
- **NLP: Twitter Sentiment Analysis** (Coursera, 2025)
Built **sentiment classification pipeline** processing 32K tweets with **95% accuracy** using Naive Bayes, developing text preprocessing workflows and visualizations for **customer feedback analysis** and brand monitoring.