

Rudraksh Sharma

Location: New Delhi, India Number: +91 7618581993

[Linkedin](#) [Github](#) [Email](#)

Results-driven Data Scientist and Qiskit Advocate specializing in quantum computing, machine learning, and deep learning solutions. Proven expertise in developing hybrid quantum-classical algorithms that outperform traditional methods. Passionate about leveraging advanced computational techniques to solve complex industrial challenges.

Work experience

AionOS | Trainee Data Scientist

| October 2025 - Present

- Developed complex mathematical models integrating business rules for Route Optimization, Tail Assignment, and Portfolio Optimization.
- Architected hybrid quantum-classical algorithms, interpreting large-scale operational data to deliver performance improvements.
- Designed quantum-enhanced solutions achieving performance improvements over traditional methods.

QWorld | QIntern 2025

| July - September 2025

- Researched and developed quantum computing applications, automating educational content delivery and platform integration
- Designed and deployed visually intuitive quantum platform to democratize quantum learning
- Collaborated with Dr. V. G. Gueorguiev (LSU) on quantum computing educational initiatives.

Education

Master of Science in Physics | Netaji Subhas University of Technology

Delhi 2025

Thesis: Synthesized Mn-doped NiO nanoparticles; leveraged Python-based computational analysis on XRD and UV-Vis spectroscopy

Bachelor of Science in Physical Science | University of Delhi

Delhi 2023

Technical Skills

Programming: Python, SQL

Statistical & Mathematical Software: Python (SciPy, StatsModels, Pandas), MATLAB, NumPy

Machine Learning & Algorithms: Deep Learning, NLP, Classical ML, Custom Algorithm Development, Optimization Algorithms

Data Visualization Tools: Matplotlib, Seaborn, Plotly, Power BI, Streamlit

ML Frameworks & Tools: TensorFlow, PyTorch, Scikit-learn, MLflow, FastAPI, Docker, Kubernetes

Quantum Computing: Qiskit, Pennylane, Dwave-Ocean, Quantum Annealing, Quantum Machine Learning, VQAs

Data Analysis: Statistical Analysis, Feature Engineering, A/B Testing, Hypothesis Testing, Predictive Modeling

Key Projects

○ Retail Demand Forecasting & Pricing Intelligence

- Collected and interpreted sparse seasonal sales data, developing statistical models using Prophet for accurate demand forecasting
- Created mathematical models integrating business rules for pricing optimization; wrote custom algorithms for elasticity modeling estimating 9% revenue uplift
- Communicated complex insights visually via interactive data visualization dashboards using Streamlit and Plotly

○ AI-Powered Clinical Document Intelligence System (Healthcare NLP)

- Interpreted clinical text data using NLP algorithms, developing machine learning models for ICD-10 disease coding with 95%+ accuracy
- Researched and implemented BioBERT-based solutions integrating business rules for diagnostic context validation
- Communicated complex AI models through explainable AI visualizations and interactive dashboards.

○ Explainable Credit Default Prediction System (AI Governance Ready)

- Developed algorithms for credit risk prediction integrating statistical analysis with SHAP explainability and Fairlearn bias detection
- Created mathematical models incorporating business rules and regulatory requirements for financial risk assessment
- Visualized model predictions and feature importance, communicating insights via Streamlit UI
- **Production grade pipeline for Customer churn prediction**
 - Automated data collection and interpretation processes; built production ML pipeline with statistical validation and A/B testing framework
 - Developed machine learning algorithms for churn prediction; deployed on Kubernetes with CI/CD automation and monitoring
 - Researched solutions to overcome data quality challenges; implemented data visualization for model performance tracking.
- **Hybrid Quantum-Classical Neural Network for Financial Forecasting**
 - Researched and developed novel algorithms combining LSTM with Variational Quantum Circuits for stock market prediction
 - Enhanced feature extraction by integrating quantum computing layers with recurrent neural networks
 - Interpreted complex market data using statistical analysis; demonstrated improved prediction accuracy over traditional models.
- **QWater-Classify: QML for Water Contaminant Detection | Winner – QubitHub Quantum Hackathon 2025**
 - Developed custom algorithms for Hybrid Quantum Neural Network; interpreted sensor data for 4-class ion classification
 - Implemented learnable classical-to-quantum encoding and Strongly Entangling Layers for 4-class ion classification
 - Achieved 67.76% out-of-fold accuracy with 98% F1-score using 3-fold stratified cross-validation.

PROFESSIONAL DEVELOPMENT & CERTIFICATIONS

Qiskit Advocate | IBM Qiskit Community (2025) | Womanium Quantum Program (2025)

Certifications: AI-Assisted Software Engineering for Quantum Computing (QuLearnLabs), Machine Learning (Columbia University), Data Analysis using Python (IBM), Python for Data Science (IBM)

CORE COMPETENCIES

Analytical Thinking | Problem Solving | Cross-Functional Collaboration | Adaptability | Technical Communication | Project Management | Creative Innovation | Research Writing | Presentation Skills
