AQIB GUL

MACHINE LEARNING SYSTEMS | MLOPS & PREDICTIVE PLATFORMS

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SUMMARY

Data Scientist with strong background in statistical modeling, machine learning, and predictive analytics. Experienced in building, validating, and deploying end-to-end ML models for real-world decision support. Skilled at working with complex datasets, feature engineering, forecasting, and interpretable modeling to generate actionable insights. Combines solid statistical foundations with practical programming and data engineering practices to develop scalable data-driven solutions and support business decision-making.

AI SYSTEMS ENGINEERING

Model deployment (Flask/FastAPI REST APIs), Real-time inference pipelines, Model retraining workflows, CI/CD with GitHub, Data validation & preprocessing automation, Monitoring & performance tracking, Reproducible ML pipelines

TECHNICAL SKILLS

Machine Learning & AI: Supervised/Unsupervised learning, Deep Learning, Time-series forecasting, Feature engineering, Model evaluation
Programming: Python (NumPy, Pandas, SciPy, Scikit-learn), R, SQL
Deep Learning/NLP: TensorFlow, PyTorch, Keras, NLTK, spaCy
Deployment: Flask, FastAPI, REST APIs, CI/CD, Git/GitHub
Data & Visualization: Data cleaning, pipelines, Matplotlib, Seaborn, Power BI
Tools: VS Code, Postman
Communication: Technical documentation, reporting, collaboration

PROJECTS

AI-Enabled Market Forecasting Platform (HADP-04)

- Designed and deployed an end-to-end machine learning system for real-time forecasting on noisy, non-stationary time-series data using LSTM, ARIMA, and ensemble learning approaches.
- Conducted systematic model evaluation and benchmarking to optimize predictive accuracy and robustness (>95%) under real-world constraints.
- Developed reusable ML pipelines covering data ingestion, feature engineering, model training, validation, and web-based deployment.
- The system supports large-scale decision-making and policy interventions under the Holistic Agriculture Development Programme (HADP).

Statistical and Machine Learning Models for Predictive Systems

- Developed regression-based allometric models and hybrid statistical–ML frameworks for predictive modeling in complex, data-scarce environments.
- Built and evaluated custom ensemble models (bagging, boosting, stacking) for price forecasting and environmental datasets, emphasizing generalization and stability.
- Integrated classical statistical inference with modern machine learning to improve interpretability and deployment readiness.

Deep Learning for Vision and Language Intelligence

- Designed and deployed deep learning models for image and text-based tasks, including pest and crop disease classification (ResNet, InceptionV3), sentiment analysis using transformer-based NLP models, and handwritten digit recognition (CNNs).
- Focused on feature representation learning, model optimization, and end-to-end deployment across heterogeneous datasets.
- Demonstrated cross-domain transferability of deep learning architectures for real-world applications.

(*Additional projects include Predicting Future Sales, Chicken Disease Classification, CO2 Emissions Forecasting, Global Terrorism EDA, and more.*)

PROFESSIONAL EXPERIENCE

Senior Project Associate – Data Science & Monitoring (HADP, SKUAST-K) — Nov 2023 - Present

- Developed and deployed real-time forecasting models (statistical + machine learning) as part of a statewide decision-support system.
- Built end-to-end data pipeline including preprocessing, feature engineering, time-series modelling, and automated diagnostics for reliable predictions.
- Integrated trained models into a production web application via API endpoints, enabling multi-stakeholder access to live forecasts.
- Worked cross-functionally with domain experts and researchers to validate outputs and translate analytical results into operational decisions.
- Implemented reproducible workflows, version-controlled codebase, and standardized reporting for maintainability and future model updates.

Data Science Consultant — Independent | Remote | Nov 2022 - Present

- Delivered 20+ analytics engagements for healthcare institutions involving predictive modeling, statistical analysis, and data interpretation.
- Processed and analyzed clinical datasets, performing cleaning, validation, and feature engineering on real-world medical data.
- Applied regression, classification, and hypothesis testing to support evidence-based research conclusions.
- Communicated analytical findings to non-technical stakeholders and ensured reproducible analytical workflows.
- Provided methodological guidance on study design, model validation, and result interpretation.

Big Data Analytics Intern (CDAC-Kolkata) — Nov 2023 - Dec 2023

- Worked with large-scale datasets using Python, Hadoop, and Apache Spark for distributed data processing.
- Applied image processing and NLP techniques for practical analytics use-cases.
- Built interactive dashboards in Power BI/Tableau for data visualization and reporting.

Machine Learning Engineer Intern (Snapchai Production Ltd) — Dec 2022 – Mar 2023

- Developed an image-based machine learning system to automate photo-editing workflows.
- Evaluated multiple models; Random Forest achieved 88% accuracy on production data.
- Implemented version control and CI/CD workflow using GitHub for collaborative model development and deployment.

Data Analyst Intern (Yoshops & Spark Foundation) — Oct 2022 - Jan 2023

- Collected and prepared real-world datasets via web scraping and data preprocessing.
- Built regression models with feature engineering to support business decision-making.
- Designed real-time dashboards in Power BI to monitor operational metrics and trends.

EDUCATION

Bachelor of Science (Forestry) (GPA: 7.42/10) — **2014 - 2018**
Sher-e-Kashmir University of Agricultural Sciences and Technology Kashmir

Master of Science (Statistics) (GPA: 7.79/10) — **2018 - 2021**
Sher-e-Kashmir University of Agricultural Sciences and Technology Kashmir

Doctor of Philosophy in Statistics (GPA: 8.94/10) — **2021 - 2025**
Sher-e-Kashmir University of Agricultural Sciences and Technology Kashmir

CERTIFICATIONS

- Fundamentals of Deep Learning
- Python for Data Science and Machine Learning Bootcamp
- Machine Learning A-Z: Hands-on Python and R in Data Science
- Data Science and Machine Learning Bootcamp with R
- Machine Learning Pipelines with Azure ML Studio
- Build a Recommendation Engine in Python Using Apriori Algorithm
- Data Cleaning for Machine Learning with Python and Pandas