

Rounak Kumar

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SUMMARY

Aspiring Data Scientist and Machine Learning Engineer with hands-on experience in building end-to-end ML pipelines, deploying scalable applications, and leveraging cloud platforms. Proficient in Python, deep learning frameworks, and MLOps practices with a strong foundation in statistics and quantitative analysis.

SKILLS

Languages: Python, R, SQL

Libraries & Frameworks: Scikit-learn, TensorFlow, Keras, CatBoost, Pandas, NumPy, Flask, Streamlit

Tools: Docker, Git, GitHub Actions, MLflow, Power BI, Azure, AWS

Workflow Skills: CI/CD Integration, Containerization, Model Deployment, Automated Evaluation, Monitoring & Logging

Core Competencies: Model Interpretability, Transformer Models, Time Series Forecasting, Statistical Inference, Distributed ML Systems, RAG Pipelines, A/B Testing, Model Drift Detection, Feature Engineering, Experimentation Frameworks

EDUCATION

Birla Institute of Technology, Mesra

Dec 2022 - Jun 2027

Integrated MSc. in Quantitative Economics and Data Science

Relevant Coursework: Probability & Statistics (I & II), Linear Statistical Models and Regression Analysis, Optimization Techniques, Stochastic Processes, Sampling Techniques and Design of Experiments, Statistical Machine Learning I, Big Data Algorithm

TECHNICAL PROJECTS

Hybrid Anime Recommendation | Python, Keras, Comet ML, GitHub Actions, Docker, Azure

[Link](#)

- Constructed a scalable anime recommendation system utilizing automated Azure Blob Storage ingestion and preprocessing pipelines to efficiently handle over 70 million user-anime ratings for robust and seamless large-scale data processing
- Developed an embedding-based hybrid recommender model as resulting in improved recommendation accuracy leveraging Keras neural network architecture with content-based and collaborative filtering, integrated with Comet ML for tracking.
- Deployed an end-to-end ML application as demonstrating systematized updates and continuous delivery via Azure Web App containers and GitHub Actions CI/CD pipelines, facilitating seamless model retraining and user-facing API availability.

Network Security System | Python, MongoDB Atlas, MLflow, GitHub Actions, Docker, Azure

[Link](#)

- Constructed an end-to-end phishing detection pipeline as validated through validated schema checks and reproducible artifacts by implementing MongoDB ingestion, transformation, feature processing, model training, and a FastAPI /predict service.
- Instituted secure automation as demonstrated through on-push cloud deployments and signed image digests by containerizing the service, configuring GitHub Actions for Azure Container Registry, and injecting secrets via environment variables.
- Provisioned production hosting as validated via externally accessible API and consistent workflows by deploying to Azure Web App, adding a health endpoint, and implementing a responsive Jinja interface with cohesive theming.

Student Performance Prediction Model | Scikit-Learn, CatBoost, Docker, GitHub Actions, Azure

[Link](#)

- Accomplished accurate math score prediction as reflected by $R^2=0.87$ by engineering a full-stack ML pipeline with robust validation, feature engineering, and cross-validation, ensuring reproducibility and delivering high predictive accuracy.
- Achieved 40% reduction in manual pre-processing evidenced through workflow metrics by automating ingestion, transformation, and model training using Python, Scikit-Learn, and CatBoost with reproducible pipelines and robust error handling.
- Delivered scalable public model hosting as measured by uptime and reach by deploying with Docker, GitHub Actions, and Azure Web App, enabling continuous delivery, mechanized builds, and secure containerized environments.

LEADERSHIP & EXTRACURRICULARS

Joint President, Society for Data Science – BIT Mesra

April 2025 – June 2026

- Led Data Science initiatives including workshops, hackathons, and expert sessions on **Data Science, Machine Learning, and Generative AI**, mentoring students in practical data-driven projects.

Vice President, Entente for Data Science & Global Economics – BIT Mesra

April 2025 – August 2026

- Co-organized the **1st QEDS Student Conclave 2026 (M.I.N.D.S.)**, featuring an NSE India workshop on **market microstructure and high-frequency data analysis**, a corporate case-solving hackathon, and decision-making session.

CERTIFICATES

- Career Essentials in Data Analysis** - Microsoft & LinkedIn
- Machine Learning with Python** - freeCodeCamp
- Learning Microsoft Power BI** - Infosys Springboard