RUDRA MEHUL DUDHAT

AI & MLOPS INNOVATOR

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SUMMARY

Data Science & AI student at IIT Bhilai (CGPA: 9.48) with demonstrated ability to build high-impact ML systems. Architected OptiQuant, a quantitative trading platform that generated 161% returns and achieved a 2.73 Sharpe ratio through sophisticated ensemble modeling and time-series analysis. Experienced in full-stack ML deployment with AWS, Docker, and CI/CD automation. Focused on transforming complex data challenges into scalable, production-ready solutions.

TECHNICAL SKILLS

Programming | Python, Java, C, HTML

Deep Learning | TensorFlow, PyTorch, Keras
NLP & GenAI | Hugging Face Transformers, LangChain, RAG

Machine Learning | Scikit-learn, Feature Engineering, SHAP, Ensemble Methods

Data Analysis | EDA, Pandas, NumPy, Matplotlib, Seaborn, MySQL, Time Series Analysis

DevOps & Cloud | Git, Docker, AWS EC2, AWS Elastic Beanstalk, GitHub Actions

LLM Engineering | Prompt Engineering, OpenAI API, Ollama, Local LLM deployment

Web Development | Flask, Streamlit, Gradio

Statistics | Probability & Statistical Modeling, Hypothesis Testing, Bayesian Inference
ML Theory | Feature Selection, Regularization, PCA

PROJECTS

OptiQuant: AI-Driven Alpha Signal Generator

- Architected a full-stack Machine Learning platform for quantitative trading, leveraging ensemble models (LightGBM, Random Forest, CatBoost) to deliver a 161.05% strategy return, 2.73 Sharpe Ratio, and 63.97% win rate over 272 trading days.
- Engineered advanced time-series features and implemented walk-forward backtesting to ensure robust, scalable performance, achieving a 56.06% Precision@Top 1% and 0.0134 Mean Information Coefficient.
- Deployed on AWS EC2 using Docker, with a Streamlit-powered interactive interface for seamless user analysis of OHLCV data, integrated with model explainability for transparent insights.
- Streamlined development with GitHub Actions CI/CD pipelines, enabling automated updates and modular design for real-world alpha research.

Access the App: http://13.61.176.157:8501/
View the GitHub Repository: Click Here

FIFA Player Valuation Model with Classical ML and SHAP Interpretability
- Developed a Random Forest model to predict football player market values using Python, Pandas, and Scikit-learn. (R^2 score> 0.9)
- Engineered 20+ features from text data, avoiding one-hot encoding and removing data leakage for generalizability.
- Applied SHAP for global and local explainability, highlighting key feature impacts.

CERTIFICATIONS

Complete Data Science, Machine Learning, DL, NLP Bootcamp by Krish Naik - Udemy (August 2025)
- Covered end-to-end Data Science workflows including supervised & unsupervised ML models, deep learning with TensorFlow, and advanced NLP techniques (Transformers, embeddings, sequence models).

BCG Data Science Job Simulation on Forage - June 2025
- Optimized a Random Forest model for customer churn prediction, achieving 50% recall using Python (Pandas, NumPy) and delivered actionable insights via data visualization and an executive summary.

JPMorgan Chase & Co. Quantitative Research Virtual Experience Program on Forage - June 2025
- Completed a simulation focused on quantitative research methods
- Analyzed a book of loans to estimate a customer's probability of default
- Used dynamic programming to convert FICO scores into categorical data to predict defaults

EDUCATION

Indian Institute of Technology, Bhilai   **July 2024 - May 2028**
Bachelor of Technology - Data Science & Artificial Intelligence
- CGPA 9.48 Year 1
- Served as Deputy Class Representative
- All India Rank 10463, JEE Advanced 2024

Reliance Foundation School, Koparkhairane   **September 2022 - April 2024**
- CBSE: Physics, Chemistry, Mathematics with Computer Science
- Scored 96% in Class 12th, Rank 3 in Science Stream

ACTIVITIES

Core Member - Data Science and Artificial Intelligence Club, IIT Bhilai
- Collaborated with a 12-member core team to launch speaker sessions with industry experts, reaching 200+ students and strengthening the institute's AI community.

Volunteer - Student Placement Team (CCPS), IIT Bhilai
- Acted as a point of contact for 15+ recruiting companies, ensuring smooth communication and a professional candidate experience.
- Coordinated aptitude tests and placement drives for 100+ students